Investigating the barriers to implementing ISO 9001:2000 within the private mobile telephone companies in Jordan.

Basem Yousif BARQAWI

Ph.D. Thesis 2009
Investigating the barriers to implementing ISO 9001:2000 within the private mobile companies in Jordan.

Basem Yousif BARQAWI

Management and Management Sciences
Research Institute (MAMS)
Salford Business School
University of Salford, Salford, UK

Submitted in Partial Fulfilment of the Requirements of the Degree of Doctor of Philosophy, May 2009
Table of Contents

Abstract ................................................................................................................... XIII

CHAPTER ONE ......................................................................................................... 1
INTRODUCTION ....................................................................................................... 1
  1.0 Introduction..................................................................................................... 1
  1.1 Background to the study .............................................................................. 1
  1.2 The need for the research .......................................................................... 2
      1.2.1 The importance of the sector ............................................................... 2
      1.2.2 Government policy ............................................................................ 3
      1.2.3 A dearth of empirical studies ............................................................. 5
  1.3 Research outline ........................................................................................... 5
      1.3.1 Aim of the research ............................................................................ 5
      1.3.2 Objectives .......................................................................................... 5
      1.3.3 Research questions ............................................................................ 6
      1.3.4 Expected contribution to knowledge ................................................. 6
  1.4 Originality of the research .......................................................................... 6
  1.5 Research methodology ............................................................................... 7
  1.6 Development and application of the interview protocol ............................. 9
  1.7 Validity and Reliability of data .................................................................... 9
  1.8 Data analysis ................................................................................................ 10
  1.9 Structure of the thesis ................................................................................ 10

CHAPTER TWO ....................................................................................................... 12
LITERATURE REVIEW ........................................................................................... 12
  2.0 Chapter Introduction .................................................................................... 12
  2.1 The mobile sector in the Arab world and beyond ..................................... 12
      2.1.1 Overview of mobile phone sector worldwide .................................... 12
      2.1.2 The mobile sector in the Arab world ................................................. 13
  2.2 Quality .......................................................................................................... 16
      2.2.1 Definitions of quality ........................................................................ 16
      2.2.2 Quality gurus' philosophies ............................................................... 16
      2.2.3 Quality Management Systems (QMS) ...
2.3.8 Principle 8: Mutually beneficial Supplier Relationships.............. 36
2.3.9 ISO 9001:2005.......................................................... 37
2.3.10 ISO 9001:2008....................................................... 37
2.3.11 Future planning in ISO 9000...................................... 37
2.3.12 Reasons to seek ISO 9001:2000 certification...................... 38
2.3.13 Benefits of ISO 9001:2000 certification.......................... 39
2.3.14 The process of ISO 9001 implementation.......................... 39
2.3.15 The impact of ISO 9001:2000 certification on organisational performance.......................................................... 41
2.3.16 Maintenance of ISO 9001............................................. 41
2.4 Barriers to Implementing ISO 9000.............................................. 43
2.4.0 Introduction..................................................................... 43
2.4.1 (A) Lack of top management commitment......................... 43
2.4.2 (B) Poor organisational culture....................................... 45
2.4.3 (C) Lack of understanding and awareness of ISO 9001:2000 standards and requirements.................................................. 48
2.4.4 (D) Lack of resources requirements.................................. 49
2.4.5 (E) Limited training and education programmes.................. 50
2.4.6 (F) Lack of motivation.................................................... 52
2.4.7 (G) Poor internal communication among the employees........ 52
2.4.8 (H) Lack of time required to obtain ISO 9001:2000 certification .......................................................... 53
2.4.9 (I) High cost of obtaining ISO 9001:2000 certification........... 54
2.4.10 (J) Poor of documentation system.................................... 54
2.4.11 (K) Lack of clear vision and vision.................................. 55
2.4.12 (L) Limited availability of gaining information.................... 55
2.4.13 (M) Failure to address customer satisfaction....................... 56
2.4.14 (N) Limited employee involvement, authority and empowerment...... 57
2.4.15 (O) Limited calibration process....................................... 58
2.4.16 (P) Poor consultants and quality certification bodies............... 58
2.4.17 (Q) Poor in the organisational management processes........... 59
2.4.18 (R) Resistance to change.............................................. 60
2.5 Change Management.......................................................... 63
2.5.1 Background..................................................................... 63
2.5.2 Definition of change management...................................... 63
2.5.3 Organisational change.................................................... 64
2.5.4 The importance of change management.............................. 64
2.5.5 Change management and quality management...................... 65
2.6 Research Background.......................................................... 66
2.6.0 Introduction..................................................................... 66
2.6.1 The Hashemite Kingdom of Jordan...................................... 66
2.6.2 Mobile sector in Jordan.................................................... 67
2.6.3 Quality in Jordan............................................................ 70
2.6.3.1 ISO in Jordan............................................................. 70
2.6.3.2 Jordan Institution for Standards & Metrology.................... 70
2.6.3.3 King Abdulla II Award for Excellence............................. 70
2.6.3.4 Literature on quality in Jordan....................................... 71
2.7 Chapter summary.............................................................. 72

CHAPTER THREE .................................................................................................. 74
RESEARCH METHODOLOGY .................................................................................... 74
3.0 Introduction.................................................................................................... 74
3.1 Definition of research methodology.................................................... 74
### 3.2 Purpose of the research

3.3 Research philosophy

- 3.3.1 Justification for choosing phenomenology as the research philosophy

3.4 Research approach

- 3.4.1 Inductive and deductive approaches
- 3.5.2 Justification for adopting the case study strategy
- 3.5.3 Justification of the choice of case studies
- 3.5.4 Companies chosen for case studies
  - 3.5.4.1 Zain
  - 3.5.4.2 Orange
  - 3.5.4.4 Umniah

3.5 Data collection methods

- 3.6.1 Interviews
  - 3.6.1.1 Justification for choosing semi-structured interviews
- 3.6.2 Documentation
- 3.6.3 Direct observation
- 3.6.4 Archival records

3.6 Structure of the interview protocol

- 3.7.1 Generating and developing the interview questions
- 3.7.2 Preparing the interview protocol
- 3.7.3 Translating the interview questions
- 3.7.4 Ethical approval
- 3.7.5 Conducting the pilot study
- 3.7.6 Conducting the full case studies

3.8 Validity and reliability of the data

- 3.8.1 Validity
- 3.8.2 Reliability

3.9 Data analysis

3.10 Chapter summary

### CHAPTER FOUR

#### RESEARCH FINDINGS

4.0 Introduction

4.1 Zain

- 4.1.1 Reasons for seeking ISO 9001:2000 certification
- 4.1.2 The benefits of certification
- 4.1.3 Knowledge, awareness and understanding of requirements and quality issues
- 4.1.4 Authority and empowerment of employees
- 4.1.5 Customer satisfaction
- 4.1.6 Key processes and instructions
- 4.1.7 Barriers encountered to the implementation of ISO 9001:2000 standards
- 4.1.8 Overcoming barriers to implementation
- 4.1.9 Barriers to maintaining ISO 9001:2000 certification

4.2 Orange

- 4.2.1 Reasons for seeking ISO 9001:2000 certification
- 4.2.2 The benefits of ISO 9001:2000 certification
- 4.2.3 Knowledge, awareness & understanding of standards & quality requirements
4.2.4 Authority and empowerment of employees................................. 125
4.2.5 Customer satisfaction.................................................................. 126
4.2.6 Key processes and instructions .................................................. 128
4.2.7 Barriers to the implementation of ISO 9001:2000 standards.......... 130
4.2.8 Continual improvements helping to overcome barriers to implementation.......................................................... 133
4.2.9 Barriers to maintenance of ISO 9001:2000 certification................ 134
4.3 Umniah ......................................................................................... 136
4.3.1 Reasons for seeking ISO 9001:2000 certification............................. 136
4.3.2 The benefits expected from ISO 9001:2000 certification............... 137
4.3.3 Knowledge, awareness and understanding of ISO 9001:2000 requirements and quality issues .................................................. 138
4.3.4 Authority and empowerment of employees.................................. 140
4.3.5 Customer satisfaction................................................................. 141
4.3.6 Key processes and instructions .................................................. 142
4.3.7 Barriers to the implementation of ISO 9001:2000 ....................... 144
4.4 Xpress .......................................................................................... 147
4.4.1 Reasons for not seeking ISO 9001:2000 certification....................... 147
4.4.2 Knowledge, awareness and understanding of ISO 9001:2000 requirements and quality issues .................................................. 148
4.4.3 Authority and empowerment of employees.................................. 148
4.4.4 Customer satisfaction................................................................. 149
4.4.5 Barriers to the implementation of ISO 9001:2000....................... 150
4.5 Chapter summary.......................................................................... 151

CHAPTER FIVE .................................................................................... 155
DISCUSSION OF THE DATA FINDINGS ................................................. 155
5.0 Introduction.................................................................................. 155
5.1 Issues related to barriers to the implementation of ISO 9001:2000 ....... 155
5.1.1 Reasons for seeking ISO 9001:2000 certification............................. 155
5.1.2 Benefits of certification................................................................. 158
5.2 Barriers to the implementation of ISO 9001:2000 certification........... 160
5.2.1 Barriers common to the literature review and the case studies ...... 160
5.2.1.1 (A) Lack of top management commitment................................ 160
5.2.1.2 (B) Poor organisational culture............................................... 162
5.2.1.3 (C) Lack of understanding and awareness of ISO 9001:2000 standards and requirements.................................................. 163
5.2.1.4 (D) Lack of resources requirements ......................................... 165
5.2.1.5 (E) Limited training and education programmes ...................... 167
5.2.1.6 (K) Lack of clear vision and mission ........................................ 168
5.2.1.7 (M) Failure to address customer satisfaction............................ 169
5.2.1.8 (N) Limited employee involvement, authority and empowerment .......................................................... 171
5.2.1.9 (P) Poor consultants and quality certification bodies ................. 172
5.2.1.10 (Q) Poor in the organisational management processes ............ 173
5.2.1.11 (R) Resistance to change...................................................... 174
5.2.2 Barriers referred to in the literature but not found in the case studies ................................................................................. 175
5.2.2.1 (F) Lack of motivation............................................................. 175
5.2.2.2 (G) Poor internal communication among employees ............... 176
5.2.2.3 (H) Lack of time required to obtain ISO 9001:2000 certification 177
5.2.2.4 (I) High cost of obtaining ISO 9001:2000 certification ............ 178
<table>
<thead>
<tr>
<th>No.</th>
<th>Table</th>
<th>Page No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.1</td>
<td>Monopoly and competition in mobile by region</td>
<td>14</td>
</tr>
<tr>
<td>2.2</td>
<td>Comparison between the world’s regions in the mobile sector</td>
<td>14</td>
</tr>
<tr>
<td>2.3</td>
<td>Data on Arab mobile markets</td>
<td>15</td>
</tr>
<tr>
<td>2.4</td>
<td>Approaches of the most important gurus to quality management</td>
<td>19</td>
</tr>
<tr>
<td>2.5</td>
<td>Growth of ISO 9001:2000 certification in the Arab world</td>
<td>24</td>
</tr>
<tr>
<td>2.6</td>
<td>ISO 9001:2000 certification in the Arab world and beyond</td>
<td>24</td>
</tr>
<tr>
<td>2.7</td>
<td>Telecommunication as a percentage of GDP in Jordan</td>
<td>67</td>
</tr>
<tr>
<td>2.8</td>
<td>Indication of growth in the mobile sector</td>
<td>69</td>
</tr>
<tr>
<td>2.9</td>
<td>List of main barriers found in the literatures</td>
<td>74</td>
</tr>
<tr>
<td>3.1</td>
<td>Contrasting features of positivism and phenomenology</td>
<td>78</td>
</tr>
<tr>
<td>3.2</td>
<td>Key features of qualitative and quantitative research</td>
<td>79</td>
</tr>
<tr>
<td>3.3</td>
<td>Assumptions of the two main research paradigm</td>
<td>79</td>
</tr>
<tr>
<td>3.4</td>
<td>The major differences between deductive and inductive</td>
<td>82</td>
</tr>
<tr>
<td>3.5</td>
<td>Relevant situations for different research design</td>
<td>82</td>
</tr>
<tr>
<td>3.6</td>
<td>Six sources of evidence : strengths and weakness</td>
<td>86</td>
</tr>
<tr>
<td>3.7</td>
<td>Links between the interview’s questions and the literatures</td>
<td>90</td>
</tr>
<tr>
<td>3.8</td>
<td>The three levels of respondents</td>
<td>93</td>
</tr>
<tr>
<td>4.1</td>
<td>TM, MM and shop floor employees views on the barriers emerged in case study A.</td>
<td>117</td>
</tr>
<tr>
<td>4.2</td>
<td>TM, MM and shop floor employees views on the barriers emerged in case study B.</td>
<td>132</td>
</tr>
<tr>
<td>4.3</td>
<td>TM, MM and shop floor employees views on the barriers to implementing the ISO standards until now in case study C.</td>
<td>145</td>
</tr>
<tr>
<td>4.4</td>
<td>TM, MM and shop floor employee views on the barriers to implementing the ISO standards in case study D.</td>
<td>151</td>
</tr>
<tr>
<td>Section</td>
<td>Description</td>
<td>Page</td>
</tr>
<tr>
<td>----------</td>
<td>-----------------------------------------------------------------------------</td>
<td>------</td>
</tr>
<tr>
<td>4.5</td>
<td>Summary of TM, MM and shop floor views on Reasons for achieving ISO 9000 certification in cases A, B and C.</td>
<td>152</td>
</tr>
<tr>
<td>4.6</td>
<td>Summary of TM, MM and shop floor views on benefits from implementing ISO 9000 certification in cases A, B and C.</td>
<td>153</td>
</tr>
<tr>
<td>4.7</td>
<td>Summary of TM, MM and shop floor employees views on the barriers existing in the four case study organisation.</td>
<td>153</td>
</tr>
<tr>
<td>4.8</td>
<td>Summary of TM, MM and shop floor employees views on overcoming the barriers affecting the implementation of the ISO certification in case study A and B and maintenance it.</td>
<td>154</td>
</tr>
<tr>
<td>5.1</td>
<td>The reasons for implementing the ISO standard in the four case study organisations in Jordan and those reported in literature in other country.</td>
<td>205</td>
</tr>
<tr>
<td>5.2</td>
<td>The benefits from implementing the ISO standard in the four case study organisations in Jordan and those reported in literature in other country.</td>
<td>205</td>
</tr>
<tr>
<td>5.3</td>
<td>The barriers to implementing the ISO standard which found in Jordan and those reported in literature in other country.</td>
<td>206</td>
</tr>
<tr>
<td>5.4</td>
<td>The classification of the barriers to implementing the ISO certification in the case study companies</td>
<td>207</td>
</tr>
</tbody>
</table>
## LIST OF FIGURES

<table>
<thead>
<tr>
<th>No.</th>
<th>Figure name</th>
<th>Page No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.1</td>
<td>ISO 9001:2000 requirements</td>
<td>30</td>
</tr>
<tr>
<td>2.2</td>
<td>Model of a processed-based quality management system</td>
<td>30</td>
</tr>
<tr>
<td>2.3</td>
<td>Map of Jordan</td>
<td>67</td>
</tr>
<tr>
<td>3.1</td>
<td>The Validity and Reliability</td>
<td>97</td>
</tr>
<tr>
<td>3.2</td>
<td>The research methodology process</td>
<td>104</td>
</tr>
<tr>
<td>No.</td>
<td>Appendices name</td>
<td>Page No.</td>
</tr>
<tr>
<td>-----</td>
<td>---------------------------------------------------------------------------------</td>
<td>----------</td>
</tr>
<tr>
<td>1</td>
<td>The definition of Quality</td>
<td>241</td>
</tr>
<tr>
<td>2</td>
<td>Edward Deming's 14 points</td>
<td>242</td>
</tr>
<tr>
<td>3</td>
<td>The ISO 9000 family</td>
<td>243</td>
</tr>
<tr>
<td>4</td>
<td>The twenty elements of ISO 9001:1994</td>
<td>245</td>
</tr>
<tr>
<td>5</td>
<td>The ISO 9001:2000 Requirements</td>
<td>247</td>
</tr>
<tr>
<td>6</td>
<td>Reasons to get the ISO certification founded in literatures</td>
<td>249</td>
</tr>
<tr>
<td>7</td>
<td>Benefits from obtaining the ISO certification founded in literatures</td>
<td>251</td>
</tr>
<tr>
<td>8</td>
<td>The regulations of the Jordanian telecommunication sector</td>
<td>253</td>
</tr>
<tr>
<td>9</td>
<td>The strength and weakness of the research paradigm</td>
<td>256</td>
</tr>
<tr>
<td>10</td>
<td>Interview questions for the employees in the certified case study organisations</td>
<td>257</td>
</tr>
<tr>
<td>11</td>
<td>Interview questions for the employees in case study organisation which is in the process to get the ISO certification</td>
<td>259</td>
</tr>
<tr>
<td>12</td>
<td>Interview questions for the employees in the non-certified case study organisation.</td>
<td>261</td>
</tr>
<tr>
<td>13</td>
<td>Student researcher letter provided by the university</td>
<td>262</td>
</tr>
<tr>
<td>14</td>
<td>A sample of interviewees Responses in case study A</td>
<td>263</td>
</tr>
</tbody>
</table>
Dedication

This thesis is dedicated to my parents. They have never ceased praying for me and wishing me all success. They have given me encouragement and support. They have provided me with determination to move through the final stages of this work.

For spiritual model (My mother-in-law) who gave me the full support and her contentious prayer for me but unfortunately shed died before I finish my study.

Especial dedication for my wife, Layla, for her support and the love she gave me during my study.

For my brothers and sisters, who gave me encouragement and love which have influenced my success.

For my brother- and sister-in-law for looking after my wife and children during the period of this study in the United Kingdom.

Finally, for my children Hussam, Raneem, Ansam and Asia - God bless them.
Acknowledgements

I wish to take this opportunity to acknowledge those who have contributed directly or indirectly to the accomplishment of this thesis. A journey is easier when you travel together.

I would particularly like to express my profound gratitude to the great person who guided me all the way, Prof. John Sharp, for his continuous support, follow up and encouragement. Prof. Sharp, who works hard to help organisation toward his own Excellence approach. He is the founding Director of the Research Centre for Organisational Excellence (COrE) and former associate head for research of the Salford Business School. I owe him lots of gratitude for supervising me on this research.

I want to express my thanks and appreciation to the academic staff and administrative employees in the Salford Business School for the help and encouragement, especially, Mr. Derek Hill and the lovely lady Susan Sharples for her helpful and powerful administration of MaMs where this research has taken place.

I would like to thank also all members of COrE research team for their valuable feedback and advice throughout the project. In the meantime I owe great appreciation and thank to my colleagues in room 204a in Salford Business school for their value comments.

I also wish to convey my sincere thanks to the people in the case study organisation, especially who participated in the data collection stage, also deserve great appreciation and gratitude.

Finally, I wish to thank all who have contributed to my research during the past three years. They have been my colleagues, managers and employees in the academic Jordanian universities.
GLOSSARY OF TERMS AND ABBREVIATIONS

BCI  British Standard Institute
CASE A  Case study in Jordan called Zain
CASE B  Case study in Jordan called Orange
CASE C  Case study in Jordan called Umniah
CASE D  Case study in Jordan called Xpress
CBJ  Central Bank of Jordan
CI  Continuous Improvement
EFQM  European Foundation for Quality Management
EU  European Union
GDP  Gross Domestic Product
GSM  Global System for Mobile
ISO  International Organisation for Standardisation
IT  Information Technology
ITU  International Telecommunication Union
JD  Jordan Dinar
JISM  Jordan Institution for Standard & Metrology
JT  Jordan Telecom
MBNQA  Malcolm Baldridge National Quality Award
MIS  Management Information System
MM  Middle Management
MTC  Mobile telecommunication company
PDCA  Plan-Do-Check-Act
QA  Quality Assurance
QM  Quality Management
QMS  Quality Management System
SF  Shop floor employees
TM  Top Management
TQM  Total Quality Management
TRC  Telecommunication Regular Commission
U. A. E.  United Arab Emirates.
UK  United Kingdom
WTO  World Trade Organisation

- XII -
Abstract

In Jordan, the mobile phone sector became vital to the Jordanian economy as its contribution to the total Gross Domestic Product reached 18% at the end of 2007. The Mobile penetration in Jordan stands at roughly 93% of Jordan’s total population at the end of 2008. Moreover, in Jordan there are 283 organisations registered with the ISO 9001:2000, and which is increasing year after year. Although some Private mobile companies have made great efforts to implement the system and to get the ISO 9001:2000 certification, others have not yet done so. Therefore the aim of this research is to investigate and identify barriers that affect the implementing of ISO 9001:2000 in the private mobile companies in Jordan.

In order to achieve the research aim, an empirically-based systems analysis of four case study organisations of all the private mobile companies in Jordan was carried out. Substantial field work was undertaken using a qualitative approach. Semi structured interviews, documentation, direct observation and archival records are several tools used to collect the data in order to achieve triangulation, to explore the implementation of ISO 9001:2000 and to provide more in-depth understanding.

The original contribution of this research is an in-depth understanding of the barriers affecting the implementation of ISO 9001:2000 in the private mobile companies in Jordan. This research is the first study in the private sector in Jordan regarding the barriers of implementing ISO standard. Some unique barriers were identified, such as: the ambition of employees to seek top and middle management posts in the companies concerned, the restrictions applying when the companies were in the public sector, the failure to install complete management information systems, imbalance between the working practices of the companies and ISO 9001:2000 requirements. In addition, the findings of the present research will strengthen the existing literature on QMS implementation in the private mobile sector and will reduce the gap in knowledge applying to Jordanian studies in particular and to Arab studies in general.
CHAPTER ONE

INTRODUCTION

1.0 Introduction
This chapter sets out the background to the research area, explains the need for the research, states the aim, objectives and research questions, outlines the intended contribution of the study, gives a brief account of the research methodology and presents the overall layout of the thesis.

1.1 Background to the study
During the 1950s, manufacturers could sell almost anything they could make. Now the dynamic business world, characterised by the rapid growth in technology and telecommunications, the information revolution and various world trade agreements make the commercial environment more changeable and competitive. The business world is changing at a faster rate than at any time in history, as open markets are spreading worldwide, new trading blocs have formed, trade agreements have been reached and information travels freely and rapidly across borders. Thus, organisations everywhere now have to use every possible tool to sustain their competitiveness (Dory and Schier, 2002).

At the same time, Lo and Humphrey (2000) mentioned that organisations have been re-engineered and are expected to deliver quality services at low prices, which require them to reduce costs, innovate in every aspect of their business operations, make continuous improvements to their products, services and processes, and improve productivity. To achieve these objectives, many organisations are changing from a traditional production-oriented approach to a competitive customer-oriented one, where customer satisfaction is at the heart of their business operations. To cope with these changes and build a competitive advantage in this globalised market, researchers such as Slack and Lewis (2002) seeks ways to help increase productivity and market share by driving down costs, improving quality, shortening the lead time to market of new products and maximising product variety. While Tannock et al. (2007) mentioned that quality plays a vital role in corporate strategy by meeting customer requests more effectively, improving internal efficiency and reducing costs.
This requires a quality management system (QMS) that facilitates continuous improvement programmes, cross-functional teams, worker training, employee empowerment and the management of information on every aspect of their business operations to sustain a competitive strategy which aligns an organisation with its stakeholders (Huarng et al., 1999). As a result, many strategies and techniques have been developed to help companies tackle their individual problems and improve their competitiveness. Quality management is considered an important issue for any organisation wishing to generate a competitive advantage (Oakland, 2003) and the ISO 90001:2000 quality management system is considered to be one of the most widely used around the world (Al-wadi, 2002). ISO 9001:2000 is concerned with quality systems and reliability. It encourages but does not of itself directly assure quality (Lo et al., 2000). The International Organization for Standardization (ISO), which is considered the world’s leading developer of international standards, specifies the requirements for products, services, processes, materials and systems. It is a network of national standards institutes which is estimated to have issued over one million ISO 9001 certifications to organisations in private and public sector organisations in manufacturing and services in 170 countries (ISO 2009). Magd et al. (2003) mentioned that the growth in ISO certification suggests that there is widespread belief in the business and organisational benefits of ISO 9001:2000 certification.

ISO 9001:2000 and its implementation have been the focus of much debate among academics, who have studied the motives (Gotzamani, 2003; Williams, 2004; Bhuiyan and Alam, 2005), the barriers (Yahya et al., 2001; Bhatti and Awan, 2003; Sharif, 2005; Al-Haj, 2006) and the enablers (Antoni et al., 2002; Sharp et al., 2003; Bhuiyan and Alam, 2005). The purpose of this study is to identify barriers to the implementation of ISO 9001:2000 in private mobile telephone companies in Jordan.

1.2 The need for the research
1.2.1 The importance of the sector
The mobile sector is considered to be at the heart of the domestic and worldwide economies. Global telecom revenue was expected to reach $2 trillion by the end of 2008, over half being from the mobile phone market (Dailywireless, 2008). There are 1.2 million new mobile connections every day, so that the world will reach 4 billion mobile connections by the first quarter of 2010 and 5.6 billion by 2013, equivalent to 95% of the world population. Mobile phones bring many benefits and make life easier,
which explains the importance of this technology to humanity. For example, an estimated 43 billion text messages were sent globally on new year's eve 2007 (ITU, 2008) and nearly 7 billion are sent every day (Mershankar, 2008). Also, mobile payment is a service at an early stage of growth, with an expected 32.9 million users worldwide in 2008 (Cellular, 2008). In particular, GSM (2008) has predicted that the Middle East will remain an area of strong growth in this market. Supporting this view, the director of the opposition group has described the Middle East as one of the fastest-growing markets in the world, where sales of mobiles were expected to reach about $70 billion by the end of 2008 (Alrai, 2008). Finally, AlGad (2008) states that there were 48 mobile phone operators serving 190 million users in the Arab world, and that this number was expected to reach 220 million by the end of 2008, representing 75% of the population.

In Jordan, the Telecommunication Regulatory Commission (TRC) (2008) states that the telecommunication sector in Jordan has developed significantly in the past few years, thanks to large investments. At the end of 2006, the Association of Information Technology Companies in Jordan announced that the revenue of the telecommunication sector had reached 1.278 billion Jordanian dinars (JD). Despite this significant growth, the national strategy for this sector aims to increase its income to JD2.13 billion and to increase the number of job opportunities to 9000 by 2011 (alrai, 2008). Moreover, the telecommunication sector has developed significantly in the past few years, with very large investments and the introduction of a number of measures by the government to ensure the proper regulation and functioning of this most vital of sectors (TRC, 2008). The sector made the second largest contribution to the total gross domestic product (19.5%) in 2008 (CBJ, 2009). It is also significant that Jordan has four mobile operators, which is one of the highest numbers in a single country in the Arab region, where a total of 48 mobile operators cover 18 countries; this again indicates the highly competitive nature of the market (AlGhad, 2008). For more information, see Table 2.3.

Thus, the need for this study arises from the great importance of the telecommunication sector to the Jordanian economy as a whole and the increasing competitiveness among organisations within the sector.

1.2.2 Government policy
When Jordan started privatisation in the late 1990s, the mobile sector was one of those which were privatised. Further, Jordan has a great need to break into new and foreign
markets, as this will boost the country's foreign income (Chapman and Al-Khawaldeh, 2002). In response to government policy in this area, Jordanian companies are concentrating on building their service-oriented industries. The effective use of a quality management system can help enhance product quality and increase productivity as well as profitability. In addition, the adoption of a quality management system will improve the Jordanian mobile sector's ability to meet the challenges found in both the global economy and the open domestic market (Chapman and Al-Khawaldeh, 2002). Thus, the mobile sector needs to be developed in a sustainable way to fit companies' development, by exploiting ISO 9000. This should result in enhanced product quality, improved productivity, increased profitability and a greater ability to meet external challenges and to adapt to variations in technology. Furthermore, it should enable newly established organisations to adopt ISO 9001:2000, depending on their determination of the benefits of doing so.

ISO 9001:2000 is a standard for evaluating a quality system. In other words, it sets standards for systems and paperwork by providing organisations with guidelines on how to establish systems for managing quality products and systems (Bryden, 2004). Generally, organisations implement ISO 9001:2000 standards to achieve improved quality and efficiency, communications and competitive advantage, to increase their market share, to reduce costs and to raise their stock price (Najmi and Kehoe, 2000). The implementation of ISO 9000 standards by Jordanian organisations started in 1995 and by the end of December 2005 there were 293 companies registered with ISO 9000 in Jordan (ISO 9000 survey, 2006). There are relatively few certified companies in Jordan compared to other countries in the same area; for example, the UAE had 963 organisations registered with the certification in 2005 (ISO 9000 Survey, 2006). This suggests that there are certain factors preventing Jordanian telecommunication organisations from achieving ISO 9000 certification, so they are seeking ways of improving the quality of their services in line with the current strategy of the Jordanian government to increase exports in this field.

Part of this strategy is the establishment of the Jordan Institute for Standards & Metrology (JISM), which is an independent administrative and financial institution whose main aim is to adopt a national system for standardisation and metrology based on accepted international practice. In addition, JISM will assess organisations that seek to implement the ISO 9001:2000 standard, to give the necessary counselling, training
and evaluation (JISM, 2007). There is also a quality award called the King Abdullah II Award for Excellence, which is the highest level of quality recognition in Jordan and which is intended to improve the competitiveness of Jordanian businesses (Kaa, 2007).

1.2.3 A dearth of empirical studies
The above discussion of the business and political background makes it clear that there are theoretical and practical reasons for examining ISO 9001:2000 in the context of Jordanian mobile companies’ practice, yet there have been few empirical studies of barriers affecting the implementation of ISO 9001:2000 in Arabic countries specifically (Al-Haj, 2006; Sharif, 2005) and none of these has been carried out in Jordan. The dearth of empirical research into the practices of quality management in Jordan is a prime motive for conducting this study in developing countries in general, and Jordan in particular. Therefore, this study represents an attempt to fill in part a gap in the literature on mobile companies in Jordan and to add to knowledge in this area.

In addition, the few studies concerning the barriers that affect the implementation of ISO 9000 standards in Arab countries have all been conducted in the public sector. The present study will attempt to narrow the gap that this represents by contributing new knowledge concerning the private sector. This will provide deeper and better understanding of the private sector environment.

1.3 Research outline

1.3.1 Aim of the research
The main aim of this research is to investigate and identify the barriers to the implementation of ISO 9001:2000 by private mobile phone companies in Jordan.

1.3.2 Objectives
- To review the relevant literature on the concept of quality management systems and their requirements, philosophies and theories as applicable to ISO 9001:2000, and on the common types of barrier to the implementation of ISO 9001:2000 in different organisations and countries, in order to list these barriers for the understanding of them in the Jordanian context.
- To gain in-depth empirical understanding of the barriers to the implementation of ISO 9001:2000 by Jordanian mobile companies.
- To explore and identify the barriers to the implementation of ISO 9001:2000 by mobile companies in Jordan.
1.3.3 Research questions

- What are the barriers to the implementation of ISO 9001:2000 standards by private mobile companies in Jordan?
- Why do these barriers affect the implementation process of ISO 9001:2000 standards in private mobile companies in Jordan?
- How do these barriers affect the implementation of the ISO 9001:2000 standards by these companies?

1.3.4 Expected contribution to knowledge

This study has been successful in investigating and identifying the barriers to the implementation of ISO 9001:2000 which adds to knowledge in this area. In addition, the few studies in the Arab countries concerning the barriers that affect the implementation of ISO 9001:2000 standards have been conducted in the public sector. Thus, this study has attempted to narrow the gap in knowledge concerning the private sector, providing an empirical understanding of the phenomenon within this environment.

One main contribution to knowledge was found in this study, is the identification of four unique barriers affecting the implementation of ISO 9001:2000 in the private mobile companies in Jordan. These barriers are not mentioned before in the literature as they were explained in section 5.2.

Other contributions have been found in this research are: compiled a table 2.9 of barriers faced by organisations in different countries over a number of years. Also, the researcher summarised in table 4.8 some factors that overcome the barriers affecting the implementation of ISO 9001:2000 in the case study organisations in Jordan and how the companies could maintain the ISO certification. In addition, the research has critically summarised in table 5.2 a comparison of the benefits from obtaining ISO 9001:2000 certification. Finally, in table 5.1 the researcher summarised the reasons arising for implementing ISO 9001:2000 certification. These findings have not been reported in other literature which will brace the existing literature on ISO 9001:2000 area.

1.4 Originality of the research

To the best of the researcher’s knowledge, this study is the first to be carried out in Jordan into the barriers to the implementation of ISO 9001:2000. It’s also the first academic study for the mobile companies in Jordan. Moreover, no case study research has been examined this topic in Jordan mentioned in the literature. Further, four unique
barriers affecting the implementation of ISO 9001:2000 in the private mobile companies in Jordan were identified in this study. Therefore, it is hoped that it provides a basis for the development of scientific research in this area.

Moreover, research on ISO standard tended on the ISO 9001:1994. However, little attention has been paid to the ISO 9001:2000 around the world in general and the Arab world in particular (Al-Haj, 2006). Therefore, this research will add to the knowledge in this field because it's about the implementation of ISO 9001:2000. In addition, the few studies of the implementation of ISO 9001:2000 were in public sectors, however this study identified the barriers to the implementation in ISO 9001:2000 in the private sector which contributes originally knowledge to the field of the ISO 9001:2000 implementation related-barriers to services and mobile companies and narrowed the gap in this field.

1.5 Research methodology
There is no definite rule as to which methodological paradigm to select when doing research, as the most appropriate one will depend on the nature and scope of the study. The phenomenological research philosophy was chosen in the present case, for the following reasons:

- The nature of the research is social, as it deals with the beliefs, perceptions of reality, attitudes and experience of people regarding the barriers to QMS implementation in a particular context. This orientation is supported by researchers such as Hussey and Hussey (1997) and Collis and Hussey (2008).
- The author was involved in the context of the research, which refers to the subjective aspects of human activity, focusing on meaning rather than measurement. This approach was adopted by researchers such as Creswell (2003), Patton (2002) and Allison et al. (1996).
- The subject under investigation is not supported by an extensive theoretical background, because of the originality of this research and a lack of previous research on this subject. This idea has been suggested by Creswell (2003).

Within the phenomenological paradigm, qualitative methods were considered appropriate for this aspect of the study, for two reasons. First, the research seeks to provide rich descriptions and a deep understanding in their natural setting of certain phenomena related to the circumstances affecting the implementation of ISO 9001:2000; this justification is supported by Naslund (2002), Patton (2002) and Bell
Secondly, this is an exploratory study investigating the meaning and experience that people bring to a process, which requires the researcher to explore real-life perceptions of why and how these obstacles occur in the Jordanian context; this reasoning is supported by Denzin and Lincoln (1998), Amarantuge (2002) and Gummeson (2000).

Further, this research follows both deductive and inductive approaches, the former in listed the barriers of implementing ISO 9001:2000 from the literature and the latter in applying it to the topic in order to achieve the research aims.

Among the different strategies adopted in social science research are experiments, surveys, histories, analysis of archival information and case studies (Yin, 2009). The case study strategy was chosen here for the following reasons:

- A case study is conducted if the researcher wishes to obtain rich descriptions and gain a deep understanding of the context; it is a worthwhile way of exploring existing theory and enables the researcher to immerse himself in real life, which can provide powerful insights (Saunders et al., 2007; Bell, 1999; Amarantuge, 2002). This corresponds with the third objective of this research, which is to investigate the barriers to the implementation of ISO 9001:2000 in private mobile companies in Jordan.

- Yin (2009) lists three conditions which can be used to select the appropriate strategy for research: the type of research question posed, the extent of control an investigator has over actual behavioural events, and the degree of focus on contemporary as opposed to historical events. According to this analysis, the present research explores these barriers by addressing 'how' and 'why' questions, and focuses on contemporary events in Jordanian organisations, answering the 'what' question.

All four private Jordanian mobile companies were selected as cases study in this research; two of them were ISO 9001:2000 certified while the other two were not yet certified. Yin (2009) and Lee (1992) state that multiple case designs are more common than single ones and are generally used to replicate findings or support theoretical generalisations. Among the advantages of multiple case study research are that it increases external validity and guards against observer bias (Leavy, 1994). Multiple case studies looking at several sites are also more likely to reach general conclusions and to provide strong research findings than those based on a single case (Perry, 1998).
However, it can be argued that the study of more than one case dilutes the overall analysis, so that the more cases are studied, the less deeply any single case can be examined (Creswell, 2003).

The final methodological decision to be made was the choice of data collection methods; it was decided to use semi-structured interviews, documents, archival records and direct observation. Yin (2009) states that no single source of data has a complete advantage over all others, while multiple sources of evidence can help in clarifying the real meaning of a phenomenon. Moreover, Silverman (1993) and Denzin and Lincoln (1998) encourage researchers to use more than one method and recognise the value of using multiple methods to corroborate findings and to improve the validity of data. The use of different methods also enables the researcher to overcome the possibility of bias associated with a single method approach (Collis and Hussey, 2008).

1.6 Development and application of the interview protocol
The process of developing the interview protocol began with the literature review, which was the main source of the content of the interviews questions. The second step was to prepare the interview protocol, which was then translated from English to Arabic (transcripts were later translated back into English). The third step was to apply for ethical approval, according to the rules of the University of Salford, before the field study could be conducted. Next, six pilot studies were conducted over a period of two weeks and their results used to develop more valid and reliable instruments. The fifth step was conducting real case studies. The total number of interviewees in the four case studies was 67, comprising employees from top and middle management and from the shop floor.

1.7 Validity and Reliability of data
Validity and reliability were strengthened by the use of the multiple sources of evidence listed above. A draft transcript of each interview was validated by asking interviewees to confirm that it reproduced accurately what they said during the interview. In addition, the researcher attended a number of training courses held by the Management and Management Sciences Research Institute at the University of Salford. The use of a case study protocol and the development of a case study database were among other tactics adopted to ensure the validity and reliability of this research.
1.8 Data analysis
The researcher used the Grounded theory and the Explanation-building tactics to analyse the data gathered. The following considerations were followed in analysing the data. The aim and objectives of the study were considered at all stages. It was ensured that all material collected from interviews, direct observations or original documents were properly referenced. After that, any oral notes were transformed into written records. The data was next compartmentalised, classified and coded through using the Ground theory. This technique allowed the researcher to store, retrieve and reorganise data, placing it in the appropriate category while reducing and rearranging it into a manageable and comprehensive form. Subsequently, the researcher wrote a summary of findings of various stages of the study to build up an overview against which he could compare existing theories or construct new ones. And finally, the researcher listed and identified the barriers affecting the implementation of ISO 9001:2000 in the private mobile companies in Jordan.

1.9 Structure of the thesis
The remainder of this thesis is organised as follows:

➢ Chapter two will contain the literature review on quality; Overview of Mobile sector around the world and in the Arab countries, quality discusses: quality definitions, quality gurus, quality in the Arab world and quality management system (QMS). Then understanding the concept and models of ISO 9000, the future of ISO 9000, ISO 9001:2000 requirements and principles, the reasons for getting ISO 9001:2000 certification, and the benefits of ISO 9001:2000 implementation. The barriers that face the organisations to obtain ISO 9001:2000 standards. The understanding of change management concept, organisational change, the importance of change management and quality. Finally, this chapter will involve the Jordanian environment, the mobile sector and quality in general and ISO standard in particular.

➢ Chapter three will analyses the various philosophies, approaches, strategies and methods of data collection used in research, demonstrating the reasons for the methodological choices made in this study. It then describes the structured interview protocol and considers the validity and reliability of the methods of analysis employed to address the aim and objectives of the research.

➢ Chapter four presents the research findings and the gathered data from the case study companies, due to the triangulation methods that were used in this study.
Chapter five will involve in depth analysis and discussions of the results. The results will linked with the literature to know if the findings are similar or contrast to findings found in studies were carried out in other countries or unique and not reported before. In addition to listed the barriers to implementing ISO 9000 in Jordanian Mobile case study companies. Also, this chapter will discuss the contribution to knowledge, the Recommendation for further researches and the limitations of the study.

Chapter six will provide the conclusions and how the researcher meets the aim and the objectives of the research and the Originality of the research.
2.0 Chapter Introduction
This literature review was conducted to enable the researcher to understand the fundamental concepts and theories of quality and quality management systems in general, as well as their application to the models of ISO 9000. The exercise also helped the researcher to identify the common barriers to ISO 9001:2000 certification, which provided guidance in investigating the barriers to its implementation in Jordanian private mobile companies, which is the main aim of this study.

This chapter is divided into six main parts, the first of which gives an overview of the mobile sector around the world and in the Arab countries, considering its importance and its benefits. Part two defines quality and discusses quality gurus, quality in the Arab world and quality management systems. Part three is concerned with ISO 9001 models. It begins by discussing the history and the future of ISO 9000, then considers the requirements and principles of ISO 9001:2000, the reasons for certification and the benefits of ISO 9001:2000 implementation. The fourth part discusses the barriers to obtaining ISO 9001:2000 standards and part five examines the concept of organisational change, the importance of change management and its relationship with quality. Finally, part six discusses the research background, considering overview of Jordan including its mobile sector, quality and ISO implementation and the case study organisations, where this study has been conducted.

2.1 The mobile sector in the Arab world and beyond
2.1.1 Overview of mobile phone sector worldwide
The mobile telephone sector is considered to be at the heart of the domestic and worldwide economies. As of April 2008 there were around 300 mobile operators and another 300 virtual operators in 218 countries (Elaph, 2008), and more than 80% of the world’s population was covered by the GSM standard (Global System for Mobile communications) (GSM, 2008). More than a million new mobile connections are made each day; therefore the world will reach 4 billion mobile connections by the first quarter of 2010 and 5.6 billion by 2013, equivalent to 95% of the world population. One billion handsets were expected to be sold in 2008 (GSM, 2008) and total revenue from global telecoms was expected to reach $2 trillion by the end of 2008, over half being generated
by the mobile sector (Dailywireless, 2008). It is an interesting fact that mobile operators have spent more than $234 billion building the GSM network since 2002, while it was recently predicted that $14 billion would be spent on mobile advertising in 2011 (GSM, 2008).

Given the growth of the market, governments have realised the importance of opening the way for the private sector to invest in it, with advances in service, reductions in price, improvements in quality of service and the growth of consumer expectations (The International Communication Market, 2006). This is supported by the World Information Society (2007), which reported that over 60 percent of the world’s economies had opened up their basic services market to competition. A high degree of liberalisation and competition in the mobile sector has also contributed to expanding mobile services, by bringing down prices and making operators more service-oriented (UN-wired continent, ITU, 2006). Areas which will remain engines for growth in the mobile market are the Asia-Pacific region and the Middle East & Africa, which are expected to contribute 80% of subscription growth from now until 2013 (GSM, 2008).

This growth is driven in part by the many benefits of mobile phones which can make the life of mankind easier. For example, an estimated 43 billion text messages are sent globally on New Year’s Eve (ITU, 2008) and nearly 7 billion every day (Mershankar, 2008). An important service at an early stage of growth is mobile payment, with an expected 32.9 million users worldwide in 2008, growing to 103.9 million in 2011 (Cellular news, 2008). It has been forecast that the gross transaction value of payments made via mobile phones for digital and physical goods will exceed $300 billion globally by 2013 (Cellular news, 2008). Moreover, mobile Web services will be worth $22.4 billion in 2013, up from $5.5 billion at the beginning of 2008 (Cellular news, 2008). Nearly 350 million people will have access to wireless e-mail by 2010, while mobile broadband networks have been launched in over 60 countries (Mershankar, 2008). Now that mobile phones can be used during flights, it is increasingly easy for people to communicate with each other anywhere and at any time (Elaph, 2008).

2.1.2 The mobile sector in the Arab world
Global International Market Analysis (2007) reports that the Arab mobile market behaves very differently from other developing markets. On one hand, there has been some liberalisation and on the other an increase in competition. However, new licences are being bought by investment companies at prices that seem suitable compared with
other markets in developing countries. As shown in Table 2.1, which compares the mobile markets of global regions, the Arab states come last in terms of competition and first for monopoly. Also, although the percentage of the Arab countries with partly or fully private incumbents is higher than in the Asia-Pacific and African regions, it remains far lower than in America and Europe.

Table 2.1: Monopoly and competition in mobile by region

<table>
<thead>
<tr>
<th>Region</th>
<th>Mobile services</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Monopoly</td>
</tr>
<tr>
<td>Africa</td>
<td>8%</td>
</tr>
<tr>
<td>America</td>
<td>25%</td>
</tr>
<tr>
<td>Asia-Pacific</td>
<td>31%</td>
</tr>
<tr>
<td>Arab States</td>
<td>31%</td>
</tr>
<tr>
<td>Europe</td>
<td>6%</td>
</tr>
</tbody>
</table>

Source: International telecommunication Union (ITU), (2008)

It is clear from Table 2.2 that the Arab region is far behind the developed countries in terms of capabilities and developments in mobile services. Services that are considered mainstream and taken for granted in America and Europe are only now being considered and offered in the countries of the Middle East.

Table 2.2: Comparison between the world’s regions in the mobile sector

<table>
<thead>
<tr>
<th>The region</th>
<th>Population (millions)</th>
<th>GDP (billion) US $</th>
<th>Mobile subscribers (000s)</th>
<th>No. of countries</th>
<th>Mobile sets per 100 inhabitants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Africa</td>
<td>716.1</td>
<td>869.5</td>
<td>173,895.9</td>
<td>45</td>
<td>28</td>
</tr>
<tr>
<td>Asia</td>
<td>3,690.9</td>
<td>12,885.4</td>
<td>1,416,013.4</td>
<td>37</td>
<td>37</td>
</tr>
<tr>
<td>Oceania</td>
<td>35.0</td>
<td>1,196.7</td>
<td>27,011.4</td>
<td>16</td>
<td>78</td>
</tr>
<tr>
<td>Europe</td>
<td>733.0</td>
<td>19,558.5</td>
<td>882,941.4</td>
<td>44</td>
<td>110</td>
</tr>
<tr>
<td>Americas</td>
<td>1,119.0</td>
<td>18,585.8</td>
<td>656,738.0</td>
<td>40</td>
<td>72</td>
</tr>
<tr>
<td>Arab states</td>
<td>332.0</td>
<td>1,251.1</td>
<td>83,899.1</td>
<td>22</td>
<td>65</td>
</tr>
<tr>
<td>World</td>
<td>6,625</td>
<td>54,347.0</td>
<td>3,330,820.3</td>
<td>204</td>
<td>49.78</td>
</tr>
</tbody>
</table>


Global International Market Analysis (2007) suggests that the potential of the Arab mobile market is significant, however, due to the fast-growing young population of the region. Operators are spending freely on new infrastructure, looking particularly at corporate markets and e-government services, and not necessarily to gain immediate competitive advantage. Supporting this view, the director of Almaza group reports that the Arabian Gulf countries plan to spend 25% of their budgets on infrastructure projects to expand their telecommunications capacity. He adds that the Middle East and North
Africa market is one of the fastest growing in the world, being expected to reach sales of about 70 billion handsets at the end of 2008 (Alrai, 2008). Moreover, startUpArabia (2008) expects the Middle East and Africa to be the fastest growing regions for mobile users and revenues over the next four years, with a compound annual growth rate of 10.5% projected between 2008 and 2013, constituting 24% of total worldwide revenue at the end of 2013. AMEinfo (2008) further notes that while the Middle Eastern mobile markets have opened for western companies to invest in, some large Arab telecom companies have set their sights beyond their borders. Additionally, the head of the Arab mobile phone operators reports that there are 48 cellular operators serving 190 million users in the Arab world and that this was expected to reach 220 million by the end of 2008, representing 75% of the population (Al-Ghad, 2008). Table 2.3 lists some data on Arab mobile markets applicable at the end of 2007.

Table 2.3: Data on Arab mobile markets, 2007

<table>
<thead>
<tr>
<th>Country</th>
<th>Population (millions)</th>
<th>GDP (US$ billion)</th>
<th>Mobile subscribers (000s)</th>
<th>Mobiles per 100 inhabitants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Algeria</td>
<td>34.1</td>
<td>135.285</td>
<td>27,562.7</td>
<td>81.41</td>
</tr>
<tr>
<td>Djibouti</td>
<td>0.8</td>
<td>830</td>
<td>44.1</td>
<td>5.55</td>
</tr>
<tr>
<td>Egypt</td>
<td>73.4</td>
<td>128.095</td>
<td>30,065.2</td>
<td>39.82</td>
</tr>
<tr>
<td>Libya</td>
<td>6.2</td>
<td>58.333</td>
<td>4,500.0</td>
<td>73.05</td>
</tr>
<tr>
<td>Mauritania</td>
<td>3.1</td>
<td>2.644</td>
<td>1,300.0</td>
<td>41.62</td>
</tr>
<tr>
<td>Morocco</td>
<td>31.7</td>
<td>73.275</td>
<td>20,029.3</td>
<td>64.15</td>
</tr>
<tr>
<td>Somalia</td>
<td>9.1</td>
<td>-----</td>
<td>600</td>
<td>6.90</td>
</tr>
<tr>
<td>Sudan</td>
<td>38.6</td>
<td>47.632</td>
<td>8,218.1</td>
<td>21.31</td>
</tr>
<tr>
<td>Tunisia</td>
<td>10.2</td>
<td>35.020</td>
<td>7,842.4</td>
<td>75.94</td>
</tr>
<tr>
<td>Comoros</td>
<td>0.7</td>
<td>.449</td>
<td>40</td>
<td>4.77</td>
</tr>
<tr>
<td>Bahrain</td>
<td>0.8</td>
<td>16.041</td>
<td>1,116.0</td>
<td>148.28</td>
</tr>
<tr>
<td>Iraq</td>
<td>29.0</td>
<td>78.5</td>
<td>14,021.2</td>
<td>48.36</td>
</tr>
<tr>
<td>Jordan</td>
<td>5.7</td>
<td>15.832</td>
<td>4,771.6</td>
<td>87.54</td>
</tr>
<tr>
<td>Kuwait</td>
<td>2.8</td>
<td>102.095</td>
<td>2,773.7</td>
<td>97.28</td>
</tr>
<tr>
<td>Lebanon</td>
<td>3.9</td>
<td>24.001</td>
<td>1,260</td>
<td>30.47</td>
</tr>
<tr>
<td>Oman</td>
<td>2.7</td>
<td>35.729</td>
<td>2,500</td>
<td>96.33</td>
</tr>
<tr>
<td>Palestine</td>
<td>4.0</td>
<td>4.007</td>
<td>1,025.9</td>
<td>27.46</td>
</tr>
<tr>
<td>Qatar</td>
<td>0.9</td>
<td>42.7</td>
<td>1,264.4</td>
<td>150.41</td>
</tr>
<tr>
<td>Saudi Arabia</td>
<td>27.6</td>
<td>381.683</td>
<td>28,381</td>
<td>114.74</td>
</tr>
<tr>
<td>Syria</td>
<td>19.9</td>
<td>38.081</td>
<td>6,234.7</td>
<td>31.29</td>
</tr>
<tr>
<td>UAE</td>
<td>4.4</td>
<td>129.702</td>
<td>7,731.5</td>
<td>176.50</td>
</tr>
<tr>
<td>Yemen</td>
<td>22.4</td>
<td>22.523</td>
<td>2,977.8</td>
<td>20.76</td>
</tr>
<tr>
<td>Total</td>
<td>332.0</td>
<td>1,251.199</td>
<td>83,899.1</td>
<td>65</td>
</tr>
</tbody>
</table>

Source: International telecommunication Union (ITU), (2008)
2.2 Quality

2.2.1 Definitions of quality
Oakland (2003, p.4) offers a convenient definition of quality as “meeting the customer’s requirements”, which may include availability, delivery, reliability, maintainability and cost effectiveness. Yong and Wilkinson (2002) point out that quality has emerged as a strategic competitive tool for organisational success. It is an ambiguous term and difficult to define, as a variety of interpretations have been placed on its use and meaning. Similarly, Galloway and Ho (1996) consider quality as an unusually slippery concept which is easy to visualise yet exasperatingly difficult to define. Among the most general definitions of the concept, the Oxford Dictionary (2001) defines quality as “a feature of something, especially one that makes it different from something else”. In terms more closely related to the present context, Gilmore (1974) defines quality as the degree to which a specific product conforms to a design or specification, while Liang (1997, p.152) defines quality as “A long-term business strategy, which strives to provide goods and services to fully satisfy both internal and external customers by meeting their explicit and implicit expectations. Furthermore, this strategy employs the talent of all employees”. Alternatively, according to ISO 8402 (1994), quality is “the totality of features and characteristics of a product or service that bear on its ability to satisfy stated or implied needs”. Similarly, ISO 9000 (2000, p.7) defines quality as “the degree to which a set of inherent characteristics fulfils requirements”. By combining the definitions of quality and requirements in ISO 9001:2000, quality can be expressed as “the degree to which a set of inherent characteristics fulfils a need or expectation that is stated, generally implied or obligatory” (Hoyle, 2001, p.21).

It will be noticed that many definitions of quality refer to satisfying customers by meeting their needs and requirements, as specified by ISO 9001:2000. Thus, a common understanding of the meaning of quality can help to improve an organisation through the ISO 9001:2000 system. More definitions of quality are listed in Appendix 1.

2.2.2 Quality gurus' philosophies
Kruger (2001) identifies the quality gurus as a few ‘pioneers’ from different countries (UK, Japan, US) who introduced their ideas for developing activities related to quality issues such as quality control, quality assurance, quality audit, quality management and total quality management. Al-Haj (2006) suggests that most concepts came from quality gurus such as Crosby, Deming, and Juran, who influenced the start of ISO 9000. In the
same context, Sanders and Scott (1997) mention that the model ISO 9000 standards were derived from the philosophies of quality gurus like Juran, Deming and Feigenbaum. Thus, reviewing the gurus' philosophies and concepts will be helpful in discussing the ISO 9001:2000 system.

According to Oakland (2003), the quality gurus are Joseph M. Juran, Edward Deming, Philip Crosby, Armand Feigenbaum, Kaoru Ishikawa and others. Vorley (1998) lists some of their approaches: Deming – 14 points, Juran – breakthrough and control, Crosby – zero defects, Ishikawa – quality circles, Feigenbaum – total quality management. These ideas and approaches are now being applied by many organisations worldwide. The success of these approaches, whose common ambition is the attainment of quality, has varied in response to a number of factors, such as the culture, systems and structure of the organisation concerned (Vorley, 1998).

Juran (1974, p.2) considers quality as "fitness for use". According to him, quality is achieved when the requirements or expectations of the customer are met. Juran (1989) states that quality improvement (QI) is the process of taking quality performance to breakthrough levels by:

- Setting up the infrastructure needed to secure annual QI.
- Identifying specific needs for improvement.
- Assigning a QI team.
- Providing the resources, motivation and training needed by the team.

For Deming (1986, p.5), "quality should be aimed at the needs of the consumer, present and future". Like Juran, he considers quality from the customer's viewpoint. Deming (1986) adds that quality is a relative term whose meaning depends on the customer's needs. He claims that his fourteen points for improving quality, productivity and competitive position are useful for any organisation wishing to implement quality management, noting that they are aims or objectives and do not describe the approach, methods and tools (Appendix 2 shows these points). He also lists five 'diseases' for organisations in all countries:

- Lack of constancy of purpose.
- Emphasis on short-term profits.
- Evaluation by (individual) performance ratings – which destroy teamwork.
- Mobility of management – job hopping.
Running a company on visible figures alone.

Feigenbaum (1991, p.7) defines quality as *"the total composite product and service characteristics of marketing, engineering manufacture, and maintenance through which the product and services in use will meet the expectations of the customers"*. According to him, quality is produced not only by the production department, but also by marketing, research and development, finance, purchasing, and any other department. Thus, Feigenbaum (1991) sets out the three stages of his approach:

- **New Design Control**: the techniques and documented procedures used to ensure that the customer's requirements are fully understood and interpreted as manufacturing specifications with due consideration for all performance, safety and reliability-related requirements.

- **Purchasing Control**: the techniques to ensure that the quality of supplies consistently meets the specified requirements in terms of price, delivery, service and quality.

- **Product Control**: all the documented methods associated with ensuring that the product conforms to specified requirements, including at the stages of packing, installation and servicing.

Ishikawa (1989, p.44) says that *"to practice quality control is to develop, design, produce and service a quality product which is most economical, most useful, and always satisfactory to the customer"*. Defining quality as *"conformance to specifications"*, Crosby (1996, p.14) thus addresses it from the service provider's perspective. He considers that the role of the organisation is to deliver what it has promised, by adopting zero defects as a standard for performance and rejecting the suggestion that some level of error is inevitable or that there should be an 'acceptable quality level' (Hamali, 1999).

### 2.2.3 Quality Management Systems (QMS)

The purpose, according to Oakland (2003), of adopting an appropriate QMS is that it can ensure the realisation of an organisation's objectives cited in its quality policy. Laszlo (2000, p.1) states that *"the quality of management"* covers leadership, communication, teamwork and the ability to change and improve while pleasing the customer. A quality management system is defined by NEPCon (2004) as a tool that
enables every organisation to achieve better and better quality in its products or services through continual improvement of methods and means of performance. Similarly, for Howcroft and Mite (2000), a QMS is a system that ensures all activities address the needs and expectations of the customers and the community, while the goals of the organisation are satisfied in the most efficient and cost-effective way by maximizing the potential of all employees. Dale (1999) states that the purpose of a quality system is to establish a framework of reference points, to ensure that every time a process is performed, the same information, methods, skills and controls are used and applied in a consistent manner. Poksinska et al. (2006) suggest that the QMS relates to the system of processes by which the product is manufactured and distributed to customers. The system covers all the processes from the design of the product to its delivery; thus all the organisation’s members are included, since the processes cannot be managed without their involvement and understanding. Additionally, Ivanovic and Majstorovic (2006) state that a quality management system is a strategy for the improvement of efficiency and effectiveness in organisations, while Oztas et al. (2007) list some measures for organisations to assess their progress and the effectiveness of their QMS:

- Reference to internal benchmarks for scrap costs, level of quality costs, customer complaints, number of line complaints raised at customer plants, etc. Thus, quality can be expressed in numbers.
- Self-assessment of internal performances: Critical self-assessment of the organisation’s activities and results against a specific set of criteria or framework.
- General comparison of the level of QMS activity against peers: Comparison with companies of high standing using published information, visits to companies and discussions with managers.
- Analysis of internal and external audit results and assessments by people external to the company: Mainly concerned with reports and comments on systems, planning carried out, attitudes of management, training undertaken and customer awards.
- Attempting to understand how an outside independent observer might see the company: An outside observer who is not necessarily knowledgeable about QMS will have other different criteria, so any judgement will probably be subjective.
2.2.4 ISO 9001:2000 as a Quality Management System

A QMS is defined in ISO 9000 (2000, p.8) as “that part of the organisation’s management system that focuses on the achievement of outputs in relation to the quality objectives”. Hoyle, (2003) reported that business excellence models and the ISO 9001:2000 should be integrated as integrated management system, they can help to implement quality systems more effectively, within the scope of performance improvement strategy for short and long term improvements and results. As Sila (2007) notes, ISO 9001:2000 deals with quality management in the design, development, purchasing, production, installation and servicing of products and services; thus, ISO 9001:2000 is considered a QMS. Indeed, it is considered one of the most important and is the system most commonly implemented around the world (AlHaj, 2006). Further, most of the QMSs are based on ISO 9001:2000 standard (Martinez-Costa and Martinez-Lorente, 2003). Moreover, Magd (2006) mentions that ISO 9001:2000, which covers all of an organisation’s policies, procedures, plans, resources, processes and delineations of responsibility and authority, is particularly widely applied in the Middle East, including Jordan. However,

2.3 The ISO 9000 and 9001 models

2.3.1 ISO 9000 Standard

ISO 9000 is a series of international quality standards which are codified, verifiable and easily adaptable (El-Meligy, 2002). ISO 9000 is a management control procedure which involves a business in documenting the processes of design, production and distribution to ensure that the quality of its products and services meets the needs of customers (Quazi et al., 2002). Moreover, ISO 9001:2000 is about quality systems and reliability. It aims to give customers confidence in their suppliers by assuring them that the suppliers have in place management processes that deliver consistency. It encourages, but does not of itself directly assure quality (Lo et al., 2000). Singels et al. (2001) consider the ISO’s core activity to be the development of technical standards, while its scope is expanding in the areas of services, management practices and conformity assessment. The ISO 9000 standards help to ensure that organisations follow specific well-documented procedures in the making of products or services and nothing more. These procedures describe how operations must be conducted. Additionally, Murray and McAdam (2007) report that the ISO 9000 series can act as a company framework for quality management to direct quality efforts on a long-term basis without any loss of compliance, while Singels et al. (2001, p.2) state that “ISO certification stands for
certain minimum quality standards that organisations should meet, and is said to assure a consistent quality of products, services and processes”.

The ISO itself (2008) claims to be the world’s leading developer of international standards, specifying the requirements for products, services, processes, materials and systems. These standards are designed to be implemented worldwide; the ISO forms a network of national standards institutes and estimates that over one million ISO 9001 certifications have been issued to private and public organisations engaged in manufacturing and providing services in 170 countries. Sampaio et al., (2009) mentioned that some countries are already reaching a market saturation level regarding the number of ISO 9001 certification entities. It has a Central Secretariat in Geneva which coordinates the system. The ISO is a non-governmental organisation which occupies a special position between the public and private sectors, because while many of its member institutes are part of the governmental structure of their countries, or are mandated by their governments, others have their roots the private sector, having been set up by national partnerships of associations (ISO, 2007).

2.3.2 Strong relation between ISO 9001:2000 and Total Quality Management
It is widely agreed that TQM is an integrated management philosophy aimed at continuously improving the performance of products, processes and services in order to achieve and surpass customer expectations (Bayazit and Karpak, 2007). TQM is a management philosophy (Kanji and Tambi, 1999). TQM is a process of continuously satisfying customer requirements at the lowest possible cost by harnessing the capabilities of everyone (Kanji & Ashur, 1993) cited in (Kanji and Tambi, 1999). Moreover, TQM is a management philosophy that emphasizes managing the entire organisation so that it excels in all dimensions of its operation (Elmuti et al. 1996).

Awan and Bhatti (2003) and Martinez-Costa and Martinez-Lorente (2003) state that ISO 9001:2000 introduces some aspects of TQM such as customer orientation, resource management and continuous improvement. Indeed, Sila (2007) considers that ISO 9001:2000 can be considered a subset of TQM. In the same context, Sampaio et al. (2009) mentioned that the majority of researchers do argue that ISO 9001 should be faced as the first step to TQM implementation. Additionally, Goetsch and Davis (2000) note that eight TQM practices have been added to ISO 9001:2000, bringing the two systems closer together than ever before, while Escanciano et al. (2001) report the suggestion that many ISO 9001:2000 registered companies view the registration process
as a prerequisite to TQM implementation. Amar and Zain (2002) agree that the ISO 9001:2000 standard is conceptually close to TQM, since the design and development of ISO 9001 and ISO 9004 version 2000 form a strongly linked pair, providing organisations with a structured approach to progress beyond certification to the achievement of TQM. Also, Curry and Kadasah (2002, p.424) consider that “there is now stronger correlation between the ISO 9001:2000 standard and Total Quality Management”. Finally, Goetsch and Davis (2000) consider ISO 9001:2000 to be completely compatible with the TQM philosophy.

2.3.3 ISO in the Arab world

Tannock and Krasachol (2002) note that the ISO 9000 series has become important in developing countries and has been adopted in some Arab countries, but Bhanugopan (2002) and Al-Khalifa and Aspinwall (2000) report that while much research has been carried out on ISO 9001:2000 in developed countries, particularly the United States and Western Europe, little such work has been carried out in developing countries. Similarly, Mohammad (2005) notes that despite the number of publications and the amount of research into quality management, little empirical work has been carried out in developing countries, particularly in the Arab world. Nonetheless, Magd and Curry (2003) recommend that Arab and other developing countries should implement ISO 9001:2000 in order to gain access to international markets, by enhancing their infrastructure to suit ISO 9000 certification. An ISO survey (2008) found that ISO 9001:2000 certifications in the Arab world had increased from the end of 2001 to the end of 2007, as Table 2.5 shows.

Despite the growing importance of quality, which has spread to many enterprises outside the developed countries, Mohamad (2005) consider that it is still lacking in the Arab world. This view is supported by comparative figures for ISO 9001:2000 certification in the Arab countries and other regions of the world at the end of December 2007, listed in Table 2.6.
Table 2.5: Growth of ISO 9000 certification in the Arab world, 2001 to 2007

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<tr>
<td>Libya</td>
<td>1</td>
<td>2</td>
<td>4</td>
<td>6</td>
<td>35</td>
<td>46</td>
<td>55</td>
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<tr>
<td>Oman</td>
<td>25</td>
<td>32</td>
<td>86</td>
<td>250</td>
<td>287</td>
<td>311</td>
<td>349</td>
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<tr>
<td>Morocco</td>
<td>14</td>
<td>46</td>
<td>64</td>
<td>296</td>
<td>403</td>
<td>457</td>
<td>504</td>
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<tr>
<td>Mauritania</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>1</td>
<td>-</td>
<td>1</td>
</tr>
<tr>
<td>Lebanon</td>
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<td>27</td>
<td>62</td>
<td>154</td>
<td>167</td>
<td>193</td>
<td>296</td>
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<tr>
<td>Jordan</td>
<td>34</td>
<td>112</td>
<td>278</td>
<td>293</td>
<td>248</td>
<td>283</td>
<td></td>
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<tr>
<td>Kuwait</td>
<td>11</td>
<td>7</td>
<td>25</td>
<td>101</td>
<td>111</td>
<td>141</td>
<td>184</td>
</tr>
<tr>
<td>Yemen</td>
<td>4</td>
<td>6</td>
<td>9</td>
<td>12</td>
<td>16</td>
<td></td>
<td>14</td>
</tr>
<tr>
<td>UAE</td>
<td>112</td>
<td>407</td>
<td>892</td>
<td>819</td>
<td>963</td>
<td>1040</td>
<td>2422</td>
</tr>
<tr>
<td>Tunisia</td>
<td>10</td>
<td>30</td>
<td>119</td>
<td>123</td>
<td>380</td>
<td>585</td>
<td>690</td>
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<tr>
<td>Palestine</td>
<td>-</td>
<td>13</td>
<td>18</td>
<td>29</td>
<td>27</td>
<td>34</td>
<td>25</td>
</tr>
<tr>
<td>Qatar</td>
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<td>11</td>
<td>17</td>
<td>94</td>
<td>97</td>
<td>101</td>
<td>177</td>
</tr>
<tr>
<td>Saudi Arabia</td>
<td>6</td>
<td>131</td>
<td>247</td>
<td>394</td>
<td>642</td>
<td>710</td>
<td>645</td>
</tr>
<tr>
<td>Sudan</td>
<td>2</td>
<td>9</td>
<td>26</td>
<td>37</td>
<td>32</td>
<td>55</td>
<td>82</td>
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<tr>
<td>Syria</td>
<td>4</td>
<td>38</td>
<td>215</td>
<td>240</td>
<td>248</td>
<td>272</td>
<td>297</td>
</tr>
<tr>
<td>Algeria</td>
<td>6</td>
<td>16</td>
<td>43</td>
<td>126</td>
<td>185</td>
<td>103</td>
<td>171</td>
</tr>
<tr>
<td>Bahrain</td>
<td>3</td>
<td>2</td>
<td>30</td>
<td>99</td>
<td>107</td>
<td>116</td>
<td>126</td>
</tr>
<tr>
<td>Egypt</td>
<td>18</td>
<td>222</td>
<td>754</td>
<td>810</td>
<td>1326</td>
<td>1928</td>
<td>1535</td>
</tr>
<tr>
<td>Iraq</td>
<td>----</td>
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<td>3</td>
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</table>


Table 2.6: ISO 9001:2000 certification in the Arab world and beyond, 2007

<table>
<thead>
<tr>
<th>Region</th>
<th>Arab states</th>
<th>Europe</th>
<th>North America</th>
<th>Africa</th>
<th>Asia</th>
<th>Central and South America</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of companies</td>
<td>7,861</td>
<td>431,479</td>
<td>47,600</td>
<td>13,634</td>
<td>411,558</td>
<td>39,354</td>
</tr>
<tr>
<td>Share in percent</td>
<td>0.826</td>
<td>45.35</td>
<td>5.00</td>
<td>1.47</td>
<td>43.25</td>
<td>4.16</td>
</tr>
<tr>
<td>No. of countries/</td>
<td>19</td>
<td>49</td>
<td>3</td>
<td>38</td>
<td>35</td>
<td>32</td>
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<tr>
<td>economies</td>
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<td></td>
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</tbody>
</table>


Further, Sharif (2005) mentions that in 1990 the Libyan State established a national standards body to adopt quality management systems, to accredit them as a third party certification body and to control the quality of products. He adds that the adoption of ISO 9001:2000 standards by Libyan organisations started in 1999 in manufacturing organisations. Elsewhere, Alsaleh (2007) states that during the last decade, Saudi Arabian industry has taken the quality issue seriously. He adds that ISO 9001:2000, which is a global application with international recognition, is the most popular and most sought after quality certification within the Saudi industrial sector. In the neighbouring UAE, Al-Haj (2006) reports that ISO 9000 has been a popular business strategy with many leading organisations and companies over the past decade, estimating that more than 1040 Emirati organisations are ISO 9001:2000 registered. Al-
Khalifa and Aspinwall (2000) evaluated current practices and knowledge of quality in Qatar, recommending that Qatar needed to improve the quality of its goods and services if it wished to compete in international markets. The most common reasons for an interest in achieving ISO 9000 were a desire to establish a quality system and to use it as a marketing tool.

Magd and Curry (2003) explored management attitudes towards ISO 9001:2000 in Egypt. Their results indicate that Egyptian organisations had a high level of understanding of the purpose of ISO certification and that many Egyptian companies placed great emphasis on certification, as 84% of participants indicated that they were either in the process of registration or planning to register, or had achieved ISO 9001:2000 certification. A United Nations (2001) study of the impact of the application of ISO 9001:2000 in Syria found that the 1990s were a decade of serious interest in quality in that country. From the end of 1996 onwards, companies started to obtain certification and in 1997, a National Committee on Quality was proposed in order to organise activities relating to quality issues in Syria.

2.3.4 The history of ISO 9000
The ISO 9000 series originated from military procurement standards developed during the Second World War. In the 1970s, many major organisations published their own quality management standards (for example, Ford’s Q101), which introduced the idea that confidence in a product could be gained from an approved quality management system and quality manuals. In 1974, the British Standards Institute (BSI) published the BS 5179 standard, *Guidelines for Quality Assurance*. This led to a shift in the burden of inspection from the customer to the supplier, as quality assurance could be guaranteed by the supplier to the customer through third-party inspection. By the late 1970s it was decided for the first time that there would be a national commercial quality management standard on what constituted a quality system. The BSI organised meetings with industry to set a common standard, which led to the BS 5750 standard in 1979 (The British Accreditation Bureau, 2007). BS 5750 was developed from the earlier BS 5179 guidelines but was firmly based around Ministry of Defence requirements and terminology (ISO, 2007). With the rise of international trade in the 1980s there was a need for some kind of internationally recognised quality system, so that in 1987 BS 5750 was adopted with a few changes as the international standard and designated ISO 9000 (Boulter and Bendell, 2002). The standards were updated in 1994 with some minor changes, before major changes were incorporated in the ISO 9001:2000 version.
(Zeng et al., 2007). Further minor changes were incorporated into the ISO 9001:2005 version (ISO, 2007) and the more recent edition was published in October 2008 to replace ISO 9001:2008 in 2010 (ISO, 2008). For more details, the family of ISO 9000 has been listed in Appendix 3.

2.3.5 ISO 9000:1987
ISO 9000:1987 had the same structure as the UK standard BS 5750. The language of this first version of the standard was influenced by Ministry of Defence requirements, making it more accessible to manufacturing. With its structure of twenty requirements, the emphasis tended to be overly placed on conformance with procedures rather than the overall process of management, which was the actual intent (British Accreditation Bureau, 2007).

2.3.6 ISO 9000:1994
ISO 9000:1994 was an attempt to move away from the practices which had somewhat corrupted the use of the 1987 standard. It ensured quality assurance through blocking actions and documented procedures (British Accreditation Bureau, 2007). Vorley (1998) points out that the aim of ISO 9000:1994 was primarily to prevent non-conformity or customer problems and to achieve customer satisfaction by concentrating on the product or service process. Moreover, the standards focused on twenty specific aspects of the quality programme, referred to as the twenty requirements of a quality assurance (QA) system (listed in appendix 4), because customers used them to obtain an assurance of the quality of products being supplied (Hoyle, 2001). In addition, the ISO 9000:1994 series of standards comprised five separate standards: ISO 9000, ISO 9001, ISO 9002, ISO 9003 and ISO 9004. Of these, ISO 9001, 9002 and 9003 were conformance standards for QA systems, while ISO 9000 and ISO 9004 are guidelines to apply the first three standards and relate to the development of a quality system within the organisation (ISO, 2007). ISO 9001 applies to organisations that design, develop, produce and service their own products and ISO 9002 to organisations that provide products without a design process, while ISO 9003 is applied to final inspection and test procedures only. This was the first time that ISO 9000 required a quality manual. Although ISO 9000:1994 was useful, it was somewhat muddled; a few unclear instructions were removed but it remained a generally incomprehensible document (ISO, 2007).
Unfortunately, as with the first edition, companies tended to implement its requirements by creating many procedure manuals and becoming overloaded with ISO bureaucracy. Adapting and improving processes could be particularly difficult in this kind of environment (British Accreditation Bureau, 2007). Erdal and Ghosh (1997) identify many issues arising from ISO 9000:1994, such as a focus on manufacturing processes, an inability to ensure the highest quality of products and services, and the fact that its standards are inflexible, static and focused on customer's requirements, not their satisfaction. Motwani et al. (1996) also list some of the criticisms of the 1994 version: the standards do not address the subject of CI; preparation for the certification process is costly; if any failure occurs in one requirement for maintaining certification, the organisation must go through a full audit procedure to register again; and there could be litigation problems concerning product safety. Curkovic and Pagell (1999) also list some of the criticisms of these standards:

- **It was not necessary to demonstrate customer satisfaction in order to obtain ISO certification.**
- **Some managers saw the standards as no more than extra paperwork, because the standards focus on the documentation processes.**
- **The implementation of a quality system is ensured by the certification, but it does not guarantee the system's functionality.**
- **The standards have a limited focus on CI.**
- **Cost and time are important issues in implementing these standards.**
- **An organisation could still have certification despite having a high percentage of nonconforming products.**

Furthermore, Santos and Esconciano (2002) state that the 1994 version had limitations in such important subjects as customer satisfaction, CI and quality management training programmes. For CI, the standards introduce a quality system in accordance with these regulations providing minor improvements, but not sufficient to guarantee entrepreneurial excellence. Regarding QM training, this version limited itself to requiring that the personnel who performed quality tasks must be trained in the activities to be undertaken. Furthermore, in every element of ISO 9000:1994, there was a requirement to establish and maintain documented procedures to control some aspects of the organisation’s operations. This led to the perception that ISO 9000:1994
standards built a bureaucracy of procedures, records and forms with very little effect on quality (Hoyle, 2001).

2.3.7 ISO 9001:2000

Thus, ISO 9001:2000 can be seen as a response to the need to make a radical change in thinking, concentrating on the concept of process management and the documented system (British Accreditation Bureau, 2007). Tsim et al. (2003) describe the ISO 9001:2000 standards as a set of interconnected ideas, principles and rules whose purpose is to assist organisations of all sectors and sizes to implement and operate effective QMSs. The basic idea of ISO 9001:2000 is to require an organisation to use and implement effectively its QMS including CI and prevention of nonconformity, the aim being to satisfy the customers. Praxiom Research Group (2006) states that the ISO 9001:2000 standards apply to all kinds of organisations in all kinds of areas, while the British Accreditation Bureau (2007) reports that the goal was always to have management system effectiveness via process performance measures. This third edition makes this more visible and so reduces the emphasis on having documented procedures if clear evidence can be presented to show that the process was working well. Expectations of continual process improvement and tracking customer satisfaction were made clear in this revision.

Besides that, the ISO 9001:2000 standards have a completely new structure and are based on eight principles that emphasise the core values and concepts of TQM (Kartha, 2004). ISO 9001:2000 allows an organisation to integrate its own QMS with other related management system requirements. Thus, by combining the additional requirements of other management systems with ISO 9001:2000 as a foundation, an integrated management system could be developed (Tricker & Sherring-Lucas, 2005). The arrival of ISO 9001:2000 promoted new issues such as monitoring customer satisfaction, quality objectives and CI, giving more opportunity to meet the needs and expectations of customers (Burtacca and Lunghi, 2003).
Hoyle (2001, p.81) lists the purposes of the ISO 9001:2000 standards as follows:

- To provide an appreciation of the fundamental principles of quality management systems and an explanation of the terminology used in the family of standards.
- To provide requirements which, if met, will enable organisations to demonstrate they have the capability to consistently provide product that meets customer and applicable regulatory requirements. ISO 9001:2000 states that the standard can be used to assess the organisation’s ability to meet customer, regulatory and the organisation’s own requirements.

Moreover, Appendix 5 listed the ISO 9001:2000 requirements as mentioned from ISO organisation, while Biazzo and Bernardi (2003, p. 156) explain these requirements and the process approach to a QMS model, as shown in Figure 2.1, as follows:

1. **The management responsibility element** comprises the requirements for developing and improving the quality system, listening to customers, formulating quality policy and planning, and defining responsibilities, authorities and communication processes to facilitate effective quality management.

2. **The resource management element** comprises the requirements for managing both human and infrastructural resources in order to implement and improve the quality management system and to address customer satisfaction.

3. **The product realization element** includes the specific requirements for the product realization processes, which involve identifying customer requirements, reviewing product requirements, communicating with customers, designing and developing products, purchasing, producing (and/or delivering) services, and controlling measurement and monitoring devices.

4. **The measurement, analysis and improvement element** features the requirement for monitoring information on customer satisfaction, measuring and monitoring products and processes, and managing internal audits, non-conformity detection and improvement actions.

Further, Burzacca and Lunghi (2003) report that the revised standard uses the Plan-Do-Check-Act (PDCA) improvement circle to enclose the four blocks of management responsibilities—resource management, process management, measurement, analysis and improvement—as illustrated in Figure 2.2.
Figure 2.1: ISO 9001:2000 Requirements

Continual improvement of the quality management system

Management responsibility

Resource management

Management analysis and improvement

Product realisation

Input

Requirements

Customers

Output

Customer Satisfaction

Source: ISO 9001:2000

Fig. 2.2: Model of a processed-based quality management system

Source: Burzacca and Lunghi (2003)
2.3.8 ISO 9001:2000 quality management principles

Hoyle (2001) mentions that the QMS standards of the ISO 9000:2000 series are based on eight quality management principles, a comprehensive and fundamental set of rules or beliefs for leading and operating an organisation, aimed at continually improved performance over the long term by focusing on customers while addressing the needs of all stakeholders. Laszio (2000) states that the principles of QM should be embedded into the organisational culture to enhance a climate of open cooperation and teamwork through the staff, customers and suppliers, while Hele (2003) recommends that an organisation should take into consideration the concepts and philosophies behind the principles when introducing or updating its management systems, because quality can become a problem when people in the organisation do not understand the QM principles. The standardised descriptions of the principles as they appear in ISO 9000:2000 are discussed in the following eight subsections.

2.3.8.1 Principle 1: Customer Focus

This principle means that everyone in the organisation must focus on the customer, not only the top management or the sales department. According to Valls and Vergueiro (2006), this principle means greater interaction with internal and external customers and suppliers, identifying their actual information needs and expectations regarding the services provided. Additionally, an organisation depends on its customers and therefore should understand current and future customer needs, and should meet customer requirements and customer expectations (ISO, 2008). For Lagrosen and Lagrosen (2006, p.2), “the customer focus value implies that all efforts should be directed at satisfying the customer”, while Vouzas and Gotzamani (2004) consider that customer satisfaction is a key requirement for verifying the effectiveness of the quality systems. Finally, OMNEX (2007) states that applying the principle of customer focus means:

- **Researching and understanding customer needs and expectations.**
- **Ensuring that the objectives of the organization are linked to customer needs and expectations.**
- **Communicating customer needs and expectations throughout the organization.**
- **Measuring customer satisfaction and acting on the results.**
- **Systematically managing customer relationships.**
• Ensuring a balanced approach between satisfying customers and other interested parties (such as owners, employees, suppliers, financiers, local communities and society as a whole).

2.3.8.2 Principle 2: Leadership
Goetsch and Davis (2000) indicate that leadership relating to quality is the ability to inspire people to make a total, willing and voluntary commitment to accomplishing or exceeding organisational goals. Leadership for quality is based on continually improving work methods and processes to improve quality, costs and productivity. Valls and Vergueiro (2006) add that this principle means increasing the roles of directors and department leaders, who are responsible for team motivation and planning, implementation and improvement of the quality management system. Top management should establish the unity of purpose and the direction of the organisation. They should create and maintain an internal environment in which people can become fully involved in achieving the organisation’s objectives (ISO 9004, 2000). Additionally, Hoyle (2001) stresses that strong leadership will drive an organisation in its chosen direction towards success. The leadership must create and maintain the internal environment to make people become fully involved in achieving the organisation’s objectives. Top management also needs to be involved in the management review process to understand what goes on within the organisation and to remain focused on the current and future needs of its customers. Lastly, OMNEX (2007) considers that applying the principle of leadership means:

- Establishing a clear vision of the organisation’s future.
- Setting challenging goals and targets.
- Creating and sustaining shared values, fairness and ethical role models at all levels of the organization.
- Establishing trust.
- Providing people with the required resources, training and freedom to act with responsibility and accountability.
- Inspiring, encouraging and recognising people’s contributions.

2.3.8.3 Principle 3: Involvement of People
Hoyle (2001) states that this principle means that management should tap the employees’ source of knowledge, encourage personnel to make a contribution and
utilise their personal experience. When people at all levels are fully involved in the organisation, this enables their abilities to be used for the organisation's benefit (ISO 9004, 2000). According to OMNEX (2007) and Valls and Vergueiro (2006), applying the principle of involvement of people means:

- People understanding the importance of their contribution and role in the organisation;
- People identifying constraints to their performance;
- People accepting ownership of problems and their responsibility for solving them;
- People evaluating their performance against their personal goals and objectives;
- People actively seeking opportunities to enhance their competence, knowledge and experience;
- People freely sharing knowledge and experience;
- People openly discussing problems and issues;
- Increasing team morale, as a result of its involvement with the quality management system and with feedback from users;
- Identification of natural talents and leaders;
- Greater participation of team members in decisions related to services (democratic approach);
- Changing the organizational culture, creating new professional and personal opportunities for team members;
- Reducing stress among workers, as they clearly know what the organization expects from them;
- Training everyone involved directly or indirectly with client services.

Further, Al-Haj (2006) mentions the importance of communicating to the people within an organisation the relevance and importance of their activities, explaining how these contribute to organisational objectives.

2.3.8.4 Principle 4: Process Approach

Tsim et al. (2003, p.247) define the process approach to management as "the application of a system of processes within an organisation, together with the identification and interactions of these processes and their management". The process
approach is the greatest change in ISO 9001:2000, offering an approach which helps organisations to eliminate complicated QMS documentation (ISO 9001, 2002). Hoyle (2001) states that the process approach to management is not about converting inputs to outputs that meet requirements, but managing processes that have a clearly defined purpose and objective, based on the needs of the interested parties. OMNEX (2007) and Valls and Vergueiro (2006) suggest that applying the principle of the process approach means:

- **Systematically defining the activities necessary to obtain a desired result;**
- **Analyzing and measuring the capability of key activities;**
- **Identifying the interfaces of key activities within and between the functions of the organization;**
- **Focusing on factors such as resources, methods, and materials that will improve the key activities of the organisation;**
- **Evaluating the risks, consequences and impact of activities on customers, suppliers and other interested parties;**
- **Providing an opportunity to simplify technical and administrative routines, with the planning and implementation of integrated processes;**
- **Standardising activities by means of documentation and the training of all involved;**
- **Giving priority to processes that create products and services.**

### 2.3.8.5 Principle 5: System approach to management

For Valls and Vergueiro (2006) and OMNEX (2007), this principle means:

- **Ensuring that departmental activities become known by the entire team in a transparent and easily understandable manner, in order to facilitate the understanding of relationships and shared responsibilities;**
- **Clearly defining the function and responsibility of each team member. All team members become directly responsible for the quality management system;**
- **Integrating with all other areas of the supporting institution;**
- **Facilitating greater integration of technical, administrative and client services teams;**
- **Systemically and objectively monitoring the quality of all products and services;**
• Structuring a system to achieve the organization's objectives in the most effective and efficient way;
• Understanding the interdependencies between the processes of the system;
• Structuring approaches that harmonize and integrate processes;
• Providing a better understanding of the roles and responsibilities necessary for achieving common objectives and thereby reducing cross-functional barriers;
• Understanding organizational capabilities and establishing resource constraints prior to action;
• Targeting and defining how specific activities within a system should operate; and
• Continually improving the system through measurement and evaluation.

It is also important to establish measurement processes, as identifying, understanding and managing interrelated processes as a system contributes to the organization's effectiveness and efficiency in achieving its objectives (ISO 2007). Similarly, Hoyle (2001) states that this principle is reflected in ISO 9001 through requirements addressing:

- The establishment, implementation and maintenance of the management system;
- The interconnection, interrelation and sequence of processes;
- The links between processes.

2.3.8.6 Principle 6: Continual Improvement

ISO 9001:2000 defines CI as a recurring activity to increase the ability to fulfil requirements. Continual improvement of the organization's overall performance should be a permanent objective of the organization (ISO 2007). Deming (1986) warns that it is not enough to improve the process; the product must be improved too. Systems need to be set up to measure improvement: processes, products, and customer service. Al-Haj (2006) adds that CI is reflected in almost every clause of the new standard. Continuous improvement of the organization's overall performance should be a permanent objective of any organization that wishes to stay in business. CI will yield excellence in design, ensure communication in contracts and create a teamwork spirit (Hele, 2003). Similarly,
Magd et al. (2003) state that CI should be seen as a necessary objective of QMS-ISO 9001:2000 implementation. It is based on the commitment of every person in the organisation and on information related to quality. Again, OMNEX (2007) and Valls and Vergueiro (2006) list a number of ways in which CI should be manifested:

- Providing people with training in the methods and tools of continual improvement;
- Making continual improvement of products, processes and systems an objective for every individual in the organization;
- Establishing goals to guide and measures to track continual improvement;
- Recognizing and acknowledging improvements;
- Increasing the credibility of the service and of the information professionals towards the supporting institution and users;
- Establishing criteria for the development of collections (physical and digital);
- Establishing a culture of continuous improvement, including the use of quality tools to detect, prevent and correct failures;
- Establishing a policy for the information service;
- Implementing internal and external audits as a way to monitor the performance of all processes;
- Exercising greater control of costs and expenses;
- More carefully planning and prioritising tasks and activities;
- Improving the quality of data and information supplied, due to better communication processes;
- Gathering resources, with justification of needs based on hard facts;
- Optimising the use of available resources;
- Enhancing cooperation among libraries;
- Reducing costs – mainly those related to rework and waste; and
- Eliminating tasks and bureaucratic routines that do not add value to the system.
2.3.8.7 Principle 7: Factual approach to decision making

OMNEX (2007) considers that applying the principle of a factual approach to decision making means:

- Ensuring that data and information are sufficiently accurate and reliable;
- Making data accessible to those who need it;
- Analyzing data and information using valid methods;
- Making decisions and taking action based on factual analysis, balanced with experience and intuition.

Effective decisions are based on the analysis of data and information (ISO 2007; Hele, 2003). Using factual data and information with experience can only help in making the right decisions for the organisation. This principle leads decision makers to approach their task in different ways, to decide what decision needs to be made, to determine what facts are needed to make the decision and how many facts will be obtained, and to identify the methods which should be used to get them (Hoyle, 2001).

2.3.8.8 Principle 8: Mutually beneficial Supplier Relationships

Valls and Vergueiro (2006) emphasise the importance of strong relationships with suppliers of products and services. As an organisation and its suppliers are interdependent, a mutually beneficial relationship enhances the ability of both to create value (ISO 9004, 2000). Hoyle (2001) adds that twenty-first century organisations are more dependent upon their suppliers than ever before.

Finally, OMNEX (2007) believes that applying the principles of mutually beneficial supplier relationships means:

- Establishing relationships that balance short-term gains with long-term considerations;
- Pooling expertise and resources with partners;
- Identifying and selecting key suppliers;
- Establishing clear and open lines of communication;
- Sharing information and future plans; and
- Establishing joint development and improvement activities.
2.3.9 ISO 9001:2005
The third revision of the standard was published in October 2005. ISO 9001:2005 defines the vocabulary and describes the fundamental principles of quality management systems, but it makes no change to the basic principles of quality management stated in ISO 9001:2000, being a relatively minor revision with no real impact on the quality system. In ISO 9001:2005, some 15 definitions, items of terminology and explanatory notes have been added to the previous version, include definitions of 'technical expert', 'requirement', 'competence', 'auditor' and 'audit plan'. Moreover, the ISO committee requires any conflicting national standards to be withdrawn by March 2006 (ISO 9001:2005 Fundamentals and Vocabulary, 2007).

2.3.10 ISO 9001:2008
The latest edition of the standard again has some slight changes of wording and minor revisions of the procedures, but does not require any specific reassessment for certification and does not introduce requirements in addition to those of the 2000 edition (ISO, 2008). Abuahv (2008) confirms that the changes made in 2008 are minor and indicates that their purpose is for the quality industry to keep up to date with changes in technology and to incorporate feedback and responses gathered over the intervening few years. ISO (2008) adds that it was intended to improve further compatibility with the ISO 14001:2004 standard for environment management systems. This is because there is increasing concern with the environment in all parts of the world, so there is a strong need for correlation between ISO 14001:2004 and ISO 9001:2000 (Abuahv, 2008). Further, one year after publication of ISO 9001:2008 all the certifications must be to ISO 9001:2008 and the year after, existing ISO 9001:2000 certifications will no longer be valid, except those who registered in 2007 they have three years validity (ISO, 2008).

2.3.11 Future planning in ISO 9000
In September 2004, the ISO Council published an action plan for developing countries 2005-2010, which concerns the implementation by developing countries of the ISO Strategic Plan 2005-2010, outlining the global vision for the organisation in 2010. The ISO Action Plan (2007) sets the following five objectives for 2010:

- Improve awareness of key stakeholders in developing countries of the role of standardisation in economic growth, world trade and sustainable development.
- Build capacity of ISO members and stakeholders involved in developing the standardisation infrastructure and participating in international standardisation work.
Increase national and regional cooperation to share experience, resources, training information and communications technologies.

Develop electronic communication and expertise in IT tools to participate in international standardisation work, reach out to stakeholders and make efficient use of ISO e-services.

Increase participation in the governance and technical work of ISO to voice priorities, contribute and influence the technical content of ISO deliverables.

The ISO Strategic Plan 2005-2010 (2007), which outlines the global vision for the Organisation in 2010, sets the following seven key objectives for 2010:

- Developing a consistent and multi-sector collection of globally relevant international standards.
- Ensuring the involvement of stakeholders.
- Raising the awareness and capacity of developing countries.
- Being open to partnerships for the efficient development of international standards.
- Promoting the use of voluntary standards as an alternative or as a support to technical regulations.
- Being the recognised provider of international standards and guides relating to conformity assessment.
- Providing efficient procedures and tools for the development of a coherent and complete range of deliverables (ISO, 2007).

2.3.12 Reasons to seek ISO 9001:2000 certification

Boiral and Roy (2007) cite the nature and intensity of motivations behind a decision to adopt the ISO 9000 standard as a key factor in the success of the implementation process and the emergence of organisational problems arising from certification. Similarly, Piskar and Dolinsek (2006) express the view that the external or internal reasons that push companies to adopt the ISO standard must be supported by top management and all employees. Once the system is established, the company must inform its customers and clearly indicate all the benefits for them; it can then expect to be rewarded by these customers as a consequence of the certification. This view is supported by Al-Haj (2006), who believes that knowing the reasons for the ISO 9001:2000 certification will illustrate the degree of commitment to implementation.
among the top management. Appendix 6 lists the reasons for seeking ISO 9001:2000 certification that have been found in the literature.

2.3.13 Benefits of ISO 9001:2000 certification
The benefits of the ISO implementation and certification are defined in ISO 9000:2000 standards as “that part of the organisation management system that focuses on the achievement of outputs in relation to the quality objectives” (ISO, 2007, p.8). The justification for seeking certification is normally based on its benefits and their effects on the organisation's future. Benefits are realised if the implementation of a QMS-ISO 90001:2000 is defined and linked to the objectives of the organisations. Naveh et al. (2006) report some studies showing that the implementation of ISO 9001:2000 has achieved real benefits, while others say that it has accomplished little. More specifically, Wiele et al. (2001) indicate that organisations constrained by external pressures to pursue certification experience fewer benefits than internally driven ones. Finally, Heras et al., (2008) conducted a study in Spain with a panel of 14 experts in the field and found no guarantee that implementation of the ISO 9001 standard would lead to an improvement in the quality of users' care. Appendix 7 lists the benefits of obtaining ISO 9001:2000 that have been identified in the literature.

2.3.14 The process of ISO 9001 implementation
Some researchers, such as Fuentes et al. (2000), Morris et al. (2000), Seaver (2001), and Bhuiyan & Alam (2005), mention a number of steps which constitute the implementation process. These may be summarised as follows:

- Identifying the gap: Implementation begins with a gap analysis to determine the discrepancies between existing procedures and the ISO 9001 framework. The analysis could be conducted by the organisation itself or through an external organisation.

- Understanding the quality system: This is especially addressed to top managers, who should be provided with formal training besides gaining a theoretical understanding from a copy of the ISO 9001:2000 standards.

- Producing a quality policy: The organisation must formulate a quality policy which embodies the required improvement in performance in the quality of products and services. This commitment needs to be communicated at all management levels to ascertain that everyone has a clear understanding of it.
Developing a team: A cross-functional team of key personnel needs to be set up to discuss implementation of the system, to set a timeframe, to provide resources and to discuss audit results.

Designating a management representative: A manager needs to be designated to lead the change. His or her basic responsibilities are to ensure that the establishment, implementation and maintenance of the quality system are commensurate with the standard.

Demonstrating commitment: Managers should provide resources as required in the system. They must be willing to participate frequently in project activities such as meetings, briefings and training.

Documentation: This will be organised into a quality manual and a procedures manual.

Determining the scope of the system: The system that will be set up depends entirely on the organisational circumstances. Some elements may be excluded if they do not apply to the organisation’s operations.

Trying it out: The system must become a dynamic entity which works effectively to achieve organisational objectives. It could also be changed to fit with changing circumstances. In addition, the system should deliver benefits to the organisation.

Auditing it internally: The organisation could use ISO 9001 for guidance in auditing, establishing auditor qualifications and managing audit programmes. The system should be internally audited regularly and the findings submitted to the management for review.

Reviewing performance: The system must be reviewed to ascertain whether it is delivering the benefits expected by the organisation and to monitor the achievement of the quality objectives.

Pre-assessment audit: The auditor has a chance to find all significant nonconformities. When she/he has finished, the auditor will make suggestions for corrective action.

Auditing: The organisation must engage an accredited registration/certification body to perform an audit and certify that the quality management system complies with the requirements of ISO 9001.

While, Brad (2008) suggested the following steps for designing, implementing and maintaining a QMS based on ISO 9001:2000:
1. **Analysis of the ISO 9001:2000 requirements**

2. **Introduction of interpretive schemes based on experience and technical background.**

3. **Management decision on expand the effort for producing the QMS.**

4. **Integration of business strategy with strategic quality management goals.**

5. **Implementation of the designed QMS.**

6. **Demonstration that QMS is effective against quality objectives.**

### 2.3.15 The impact of ISO 9001:2000 certification on organisational performance

Dick *et al.* (2008) mentioned that studies discussing the effect of ISO 9001:2000 on performance have shown mixed result. Some studies showed a positive effect such as Withers and Ebrahimpour (2001), Heras *et al.* (2008), Sharma (2005), Corbett *et al.* (2005), Casadesus & karapetrovic (2005), Mage (2006), Martines-Costa *et al.* (2007), Park *et al.* (2007), Feng *et al.* (2008) and Sampaio *et al.* (2009). The general agreement is that companies that obtain the ISO certification for internal reasons obtain better results that those motivated by external reasons (Martines-Costa *et al.*, 2007). However, the technology, quality management control, reports statistically improvements, continuous improvement, standardisation of work procedures, improvement in communication and planning are ways that confirm the positive impact of obtaining ISO 9001:2000 certification on organisational performance. Moreover, Sampaio *et al.* (2009) mentioned that The ISO certification does seem to have significant impacts over the companies' performance, but if the analysis is focused over its impact only over business financial performance, results of a contradictory nature are reported, there is an interesting relationship between ISO 9001:2000 motivation and the corresponding benefits. While other studies such as Aarts and Vos (2001), Singels *et al.* (2001), Wayhan *et al.* (2002), Pivka (2004) and Poksinska *et al.* (2006), did not showed a positive effect for implementing the ISO standard on organisational performance. They agreed that ISO 9001:2000 is only a framework for identifying and managing activities that does not help companies to achieve grater competitiveness and business success.

### 2.3.16 Maintenance of ISO 9001

Hoyle (2003) mentioned that maintenance is the meaning of the action that remains something in a serviceable condition. Maintenance can be divided into four types: corrective maintenance; preventive maintenance; predictive maintenance and planned maintenance. The company should always maintain its quality system complaint to ISO standards if it wishes to remain registered (Abraham *et al.*, 2000). Seaver (2001) explained that once the final audit is completed, the control on the procedures must be
routinely implemented. If the system is practical and beneficial, the surveillance process can be done without much difficulty. But, if the difficulties are not worth the benefit, it shows that system needs corrective action.

Some researchers suggested in their studies some factors for the maintenance of ISO 9001:2000. For example, Chin et al (2000), Sharif (2005), Al-Haj (2006) and Basir (2008), mentioned that any non-conformity which was found in the internal audit should be effective corrected immediately. They added that using corrective and preventive action process measures are crucial to CI initiatives, and without them the ISO certification cannot be maintained. Moreover, Sharif (2005), Chin et al (2000), Wealleans (2005), Al-Haj (2006), Basir (2008), mentioned that internal audit and management review are effective tools to asses the system. They explained that the registered company must have an internal system for auditing the effectiveness of QMS and compliance of all quality system elements. Then any non-conforming process can be presented through management review which can be mentioned in a meeting for decision making.

Further, Sharif (2005), Chin et al (2000), Wealleans (2005), Nwankwo (2000), Tricker and Sherring-Lucas (2005) and Casadesus & Karapetrovic (2005) suggested that running training programs related to QMS and ISO 9001:2000 standard, whether conducted internally or by contract with a foreign consultant company is another important factor for maintenance the ISO certification. They added that if the organisation is large, the surveillance audit may not cover everything, for that a need for Consultant Company is required. The aim of these training programs is to correct the processes and to keep continuous awareness on the ISO requirements to maintain the system. Finally, Sharif (2005), Nwanko (2000), Tsim et al (2003) and Dale (2003) confirm that keeping continuing improvement is another important tool to maintain the certification and even to go further in the quality journey. In addition to involvement of the employees in all management levels which can put more effort in performing the procedures according to ISO 9001:2000 standard, which is another factor for maintenance the certification.
2.4 Barriers to Implementing ISO 9000

2.4.0 Introduction
A barrier is defined as "a problem, rule or situation that prevents somebody from doing something or that makes something impossible" (Oxford Dictionary, 2001). Barriers to the implementation of ISO 9000: 2000 are different from one culture to another (Tabyeb, 2003).

Al-Haj (2006) reports a dearth of practical studies on the topic of barriers affecting the implementation of ISO 9001:2000, especially those conducted in Arab countries. So far, almost all studies of this version of the standards are theoretical and lack empirical evidence (Sharif, 2005). These may be expected to differ from one culture to another (Casadesus and Karapetrovic, 2005).

Sections 2.4.1 to 2.4.21 considers in turn the most common barriers faced by organisations seeking certification, as identified from a review of Western, Asian and Arabic literature. It is important for all organisations to understand these barriers before and during QMS implementation so that they can respond accordingly in order to ensure the successful introduction and maintenance of the quality system.

2.4.1 (A) Lack of top management commitment
Al-Madi (2005, p.82) cites quality gurus like Deming, Juran and Crosby as stating that top management commitment is one of the most important factors affecting the success potential of QMS in an organisation. In the same context, Sampaio et al. (2009) mentioned that lack of top management involvement is considered to be the main barrier faced by companies during ISO 9001 implementation. Moreover, Wiele et al. (2001) recommend that this commitment should be based on the understanding, knowledge and belief that quality management is of considerable importance for the organisation. Leaders should do more than just talk; they must change conceptually and structurally to bring leadership to life at all levels. According to the ISO 9001:2000 standard, top managers must establish a quality policy and objectives which are then well communicated and understood at all levels in the organisation. The leadership should conduct a management review at planned intervals, to review the continuing suitability, adequacy and effectiveness of the QMS involving quality policy and objectives in comparison with the organisation's performance. Top management should also ensure the availability of necessary resources to achieve quality objectives (ISO,
2007). With specific reference to the cultural aspects of the UAE as they relate to ISO 9001:2000, Al-Haj (2006) lists these top management tasks:

- **Leading the organisation by example.**
- **Participating in improvement projects.**
- **Creating an environment that encourages the involvement of people.**
- **Defining the organisation's quality policy and making this known to every employee.**
- **Ensuring that quality objectives are established at all levels and functions.**
- **Ensuring the availability of resources required for the development and implementation of the quality management system.**
- **Appointing a management representative to coordinate quality management system activities.**

A study conducted by Bhuiyan and Alam (2005) found that top management commitment was not reflected and communicated from managers down to the lower levels. They argue that top management involvement is essential in order to measure and improve quality and to offer commitment in terms of time, budget and personal involvement. Sharif (2005) reports that in some Libyan companies, the managers did not fully understand their role as leaders in the implementation of ISO 9000 standards and that the companies' approach to structure could keep a distance between them and their employees regarding the exchange of QMS information. A slightly different problem is identified by Al-Haj (2006), who observed that top managers in the UAE were committed to quality implementation at the outset, but that after a while they realised that ISO 9000:2000 required a great deal of follow-up, at which point many lost interest in continuing the implementation of the system. Chin *et al.* (2000) also found that lack of top management support was a barrier to certification. In the same context, other researchers identifying weak top management commitment, poor leadership and lack of organisational direction as barriers to implementation of ISO 9000 implementation include Withers and Ebrahimpour (2001), Chin *et al.* (2000), McCullough and Laurie (2005), Quazi *et al.* (2002) and Fuentes *et al.* (2000). Conversely, Magd (2006) reports that top management acts as a driver of QMS implementation through its support and the provision of the resources needed.

Other researchers who have specified lack of top management commitment as a barrier to implementing ISO 9000 in their respective countries include Tayyara *et al.* (2000),
who found this problem in Syrian organisations, Al-Zamany et al. (2002) (Yemen) and Fuentes et al. (2000) (Spain), Samson et al. (2009) (UK), Finally, Amar and Zain (2002) observed the existence of this barrier in Indonesian manufacturing organisations.

2.4.2 (B) Poor organisational culture
According to many contributors to the management literature, culture is considered one of the most important factors affecting the practice of a QMS. Individual and organisational culture has been the subject of discussion over the last few decades. Culture is defined by Oakland (2003, p.22) as “the beliefs that pervade the organisation about how business should be conducted and how employees should be treated and should behave”. He adds that the culture within the organisation contains behaviours based on people’s interactions, norms resulting from working groups, dominant values adopted by the organisation, rules and the climate within the organisation. Beardwell and Holden (2001) states that culture consists of patterns, explicit and implicit of, and for, behaviour acquired and transmitted by symbols, constituting the distinctive achievement of human groups, including their embodiment in artefacts. Alternatively, Maull et al. (2001) state that culture includes knowledge, beliefs, art, morals, law, customs, habits and capabilities acquired by employees in the organisation. Culture is the adhesive material that holds the organisation together. Stone (2002) defines organisational culture as “the values, beliefs, assumptions and symbols that define the way in which the organisation conducts its business”, while Maull et al. (2001) propose a model of organisational culture comprising four main elements—values, rituals, heroes and symbols—and McDermott and O’Dell (2001) classify aspects of culture as under two dimensions: visible aspects, such as the organisation’s mission, espoused values, structure, stories and spaces, and invisible aspects, which are the behaviours of the workers.

Moreover, Tayeb (2003) distinguished between culture and nation, he explained that “culture influences organisations at the micro-level: workplace behaviour, human resource management, while Nation, has implications for organisations at macro-level: employment laws, anti-pollution legislation, industrial structure economic and foreign trade policies”. For that, any company located in any part of the world have to consider the implications of these two sets of influences for its activities (Tayeb, 2003).

One the other hand, Hofstede (1991) in his important study which was carried out in 50 countries to investigate the impact of national culture on organisation in different
regions in the world, suggested that there are four dimensions which describe national culture. These are power distance, uncertainty avoidance, individualism/collectivism and masculinity/femininity (Schneider and Barsoux, 2003; Kolman et al., 2003).

Power distance refers to "the extent to which a society accepts the unequal distribution of power in the institutions and organisation" (Schneider and Barsoux, 2003, p87). Organisations in countries dominated by larger power distance tend to have a bureaucratic structure. This is because the leaders of such organisations believe that they can achieve high performance through centralised decision-making, clear accountability, highly formalized and specialised functions (Rodrigues, 1995; Schneider and Barsoux, 2003; Schein, 2004). On the other hand, organisations in countries dominated by small power distance tend to have a more organic structure, because employees do not expect highly centralised decision-making (Rodrigues, 1995). Moreover, managers prefer to work as members of a team to achieve organisational performance (Schein, 2004).

Individualism means concentrating on personal goals rather than group objectives. Thus, in societies with a high degree of individualism, employees are concerned with their own interests (Schneider and Barsoux, 2003; Schein, 2004). Moreover, organisations tend to be more formalized and centralized decision-making (Rodrigues, 1995). Conversely, teamwork, cooperation and the sharing of values and knowledge would be more vital than individual initiative in societies dominated by collectivism (Schneider and Barsoux, 2003).

Additionally, countries may be classified as weak or strong in terms of uncertainty avoidance. In countries whose culture is dominated by weak uncertainty avoidance, organisations tend to have a more organic structure (Schneider and Barsoux, 2003). In contrast, a culture of strong uncertainty avoidance is likely to correspond with more bureaucratic structures. Managers prefer to avoid taking risks and to play a major role in planning, organising, coordinating and controlling (Schneider and Barsoux, 2003).

Furthermore, in societies with a high masculinity orientation, "males are expected to carry out the assertive, ambitious and competitive roles in the society; females are expected to care the non-material quality of life, for children and for weak to perform the society's caring role" (Rodrigues, 1995, p28). Hence, in such a society,
organisations tend to be characterised by more centralized decision-making; managers give more attention to task accomplishment rather than developing social relations (Schneider and Barsoux, 2003). On the other hand, in those societies with a high femininity orientation, organisations tend to have an organic structure (Rodrigues, 1995). Managers are concerned with social responsibility and the well-being of employees (Schneider and Barsoux, 2003). Table 2.1 shows values of the four indices for Arab countries, Great Britain and the USA, with rank numbers:

Table 2.1: Values of the indices for Arab countries, Great Britain and the USA (with rank numbers)

<table>
<thead>
<tr>
<th>Country</th>
<th>Power Distance</th>
<th>Uncertainty Avoidance</th>
<th>Individualism</th>
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<td>Score</td>
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<td>Arab countries</td>
<td>80</td>
<td>7</td>
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<td>Great Britain</td>
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<td>USA</td>
<td>40</td>
<td>38</td>
<td>46</td>
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* Scores range from zero for small power distance, weak uncertainty avoidance, collectivist or feminist to 100 for large power distance, strong uncertainty avoidance, individualist, or masculinity.


Moreover, Claver et al. (2000), report that a bureaucratic culture causes many problems for organisations, such as lack of employee involvement, insufficient investment in technology, hierarchical levels, inappropriate planning, inappropriate business alliances and not being able to adapt to the market. Furthermore, Maull et al. (2001) argue that the successful implementation of a QMS requires an assessment of the organisational culture and the implementation of an integrated process for change in organisational behaviour. Corbett and Rastrick (2000, p.17) suggest that “to implement quality programs effectively, the organisational culture should be moulded to the quality method or vice versa. It is important that this occurs at the initial implementation of the quality program, because the culture’s initial experiences of the quality program will affect their future responses to quality initiatives. That is, organisational culture impacts on quality from the conception of quality within the organisation”.

Other researchers mention several different ways in which organisational culture may affect quality standards. For example, Najmi and Kehoe (2000) identify two common cultural barriers: failure to develop a proper organisational structure and difficulty in cultural change. For his part, Al-Haj (2006) examines a cultural barrier in the UAE called wastha, which he describes as a social relation between two persons to get the work done. This phenomenon, which is based on social relations and influence, can
disrupt the normal working process in an organisation, so that it does not then meet the quality standards enforced in the organisation. Al-Haj (2006) also identifies a cultural barrier in the UAE which he calls “multiculturalism”. He explains that the practice of acknowledging and respecting the various cultures, religions, races, ethnicities, attitudes and opinions within an environment, called multiculturalism, needs to be accepted. This affects the system in that employees are unwilling to perform better in their jobs and no continuous improvement can be achieved. In the same context, Bijlsma-Frankema (2001) declares that culture plays an important role in the way employees react to new structures within the work environment. Finally, Samson *et al.* (2009) mentioned that cultural, re-engineering and change management issues are the main barriers to implementing ISO 9001:2000 in the non-profit companies in UK.

2.4.3 (C) Lack of understanding and awareness of ISO 9001:2000 standards and requirements

Yahya and Goh (2001) and Beskese & Cebeci (2001) report that one of the major problems faced by ISO 9000 certified and non-certified organisations in implementing ISO 9000 is the understanding of the standards and requirements. Bhatti & Awan (2003) believe that the use of English as the language of the standards may prevent thorough understanding of the requirements. Sohel and Terziovski (2000) identify a lack of understanding of the principles of TQM as one of several obstacles to the adoption of quality management, while others, including Sharp *et al.* (2003), Curry and Kadasah (2002), Al-Khalifa and Aspinwall (2000) and Chin *et al.* (2000), specify that one of the common barriers encountered by organisations trying to implement ISO 9001 is a lack of understanding of the requirements of ISO 9001 itself.

Some other researchers provide examples of this problem in particular countries. For example, Sharif (2005) reports that Libyan organisations do not have enough understanding of ISO 9001 standards. In the same context, Al-Zamany *et al.* (2002) state that there is a lack of personnel understanding of quality principles in Yemen, even in ISO 9001 certified organisations. Similarly, Beskese and Cebci (2001) state that one of the difficulties most frequently encountered during the certification process in Turkish organisations was poor understanding of the requirements of ISO 9001 standardisation procedures. In Syria, Tayyara *et al.* (2000) found the same difficulty in understanding ISO 9001 requirements. This is not only a factor in developing countries, as Balzarova *et al.* (2002) found that lack of understanding of ISO 9001 requirements was a barrier to the successful implementation of a QMS in some UK firms, while
Withers and Ebrahimpour (2001) indicate that one of the most common obstacles facing eleven different European organisations in their study was the difficulty in interpreting the ISO 9000 standards. Zeng et al. (2007) report that poor understanding of the ISO 9000 standard and requirements is one of the barriers to implementation by Chinese companies, because of over-expectation of ISO 9000 standards and too little time being allowed for gaining certification. In his case study in the UAE, Al-Haj (2006) found that some managers had not understood the quality philosophy and even the management rules in general. This was reflected by the number of tasks which had to be redone in some departments, processes which were unclear to some employees, and data re-entered into the system. Finally, Park et al. (2007) conducted a study of Korean companies and found a lack of understanding of requirements and insufficient performance by all employees.

According to Chin et al. (2000), ISO 9000 awareness means that the staffs of an organisation understands the management's quality policy and the current status of the ISO 9000 quality system in the organisation. They cite McCullough and Laurie (2000), who found that lack of awareness of the importance of ISO 9000 requirements was a barrier to obtaining certification.

Al-Zamany et al. (2002) found that the level of awareness of quality management issues in Yemeni organisations was very low and that there was a poor understanding of the importance of quality in international trade and of the globalisation of markets. Lack of awareness was an inhibiting factor to starting the ISO 9000 process in Pakistan (Awan and Bhatti, 2003). Ahmed et al. (2005) report that some US companies have failed to see the need to obtain the ISO 9000 certification. Al-Haj (2006) found that, among lower level staff, limited understanding of quality and a lack of recognition of the wider benefits of quality led to poor awareness of quality. Finally, Heras (2008) conducted a study in Spain with a panel of 14 experts in the field, reporting that "because ISO 9001 is a well-known and widespread tool, some participants noted that it provides a certain legitimacy to a sector that is generally considered to have many managers with limited managerial training" (p.6).

2.4.4 (D) Lack of resources requirements
Some researchers have found that ISO 9001:2000 certification could improve human resource management, as it helped organisations to recruit a high quality of staff (McAdam & Fulton, 2002) and improved job satisfaction, work performance and staff
retention (Magd & Curry, 2003), while Casadesus & Karapetrovic (2005) report that suggestion systems and health and security at work were improved. Conversely, Fuentes et al. (2000) identified a lack of human resources and of expertise as major barriers to ISO 9000 implementation. Moreover, Boiral and Roy (2007) cite other researchers (Briscoe et al., 2005; Gustafsson et al., 2001; Fuentes et al., 2003) who found that the mobilisation of human resources appeared to be both one of the main difficulties associated with implementing the standard and a key factor in a successful certification process. Beckford (2002) agrees that human resources represent one of the main components in ISO 9001:2000 requirements, hence cultural change is crucial for its success. A number of other researchers have identified human resources as a barrier to implementation in individual countries. For example, Al-Zamany et al. (2002) found that Yemeni organisations had a shortage of the skilled personnel needed to implement QMS, to assess processes, to collect and analyse data and to solve problems; Amar and Zain (2002) identified human resources and turnover of management as barriers in Indonesian manufacturing organisations; and Sharif (2005) reports that a shortage of expert people, knowledgeable in ISO 9000 standards and QMS issues, was a barrier in Libyan companies.

Some researchers have pointed out that lack of financial resources is a barrier to implementing ISO 9000 standards. For example, Fuentes et al. (2000) and Najmi and Kehoe (2000) identify unsuitable budgets as a barrier to QMS implementation, while others have mentioned lack of financial resources as a barrier to implementing ISO 9000 in particular countries. For example, Amar and Zain (2002) identified this problem in Indonesian manufacturing organisations. And Sharif (2005) who found that lack of financial resources is a barrier to implementing ISO in Libya organisations.

2.4.5 (E) Limited training and education programmes
Lack of training has been identified as another barrier to ISO 9001:2000 certification (Ebrahimpour & Whithers, 2001; Bhuiyan & Alam, 2005), while Bhatti & Awan (2003) suggest that appropriate awareness training for ISO 9001:2000 is crucial for all organisation members. The training strategy assessment scale in any organisation is measured by the availability of training resources, the number of times each employee is trained and retrained, employees' satisfaction with training and the level of their participation in training sessions. Berggren et al. (2001) suggest that there is a link between education and training on one hand and the amount of engagement in and commitment to the QMS on the other, finding that those companies which started with...
education and training early in the process experienced a high level of awareness of quality and motivation to use ISO 9001:2000. Moreover, Antoni et al. (2002) found that proper training for all employees was required to improve the manner of managing ISO 9001.

In developing countries, inadequate training of employees and a lack of commitment and motivation are key obstacles to quality (Prasad and Tata, 2003). Moreover, Najmi and Kehoe (2000) state that training of employees without a specific purpose is a common barrier to implementation of ISO 9000 standards. Some researchers in the Arab world have reported that inadequate training and education are barriers there. For example, in Qatari organisations, Al-Khalifa and Aspinwall (2000) found that there was a lack of training programmes regarding quality management systems and that promotion was based on nationality rather than qualifications. Al-Haj (2006) reports that companies in the UAE were delayed by having to translate some of the documents into Arabic, mainly because most of the generation of employees was not fluent in English and most were not able to understand the departments’ documented procedures in English. He adds that the language barrier and the poor knowledge of employees were major barriers to the smooth implementation of the ISO 9000:2000 system. Tayyara et al. (2000) studied ISO 9000 implementation in Syrian companies and found that a lack of training programmes was a barrier. Sharif (2005) reports that an overstaffed and unskilled workforce caused low levels of productivity, making it difficult for the company to find an outside market for its products, with the result that production costs increased.

Beyond the Arab world, many other researchers have identified poor training and education as a barrier to implementing ISO 9000 in their countries. For example, Balzarova et al. (2002) and Sharp et al. (2003) state that lack of training and learning formed an organisational barrier to the successful implementation of quality management systems including ISO 9000 by some UK firms, while Awan and Bhatti (2003) and Dickenson et al. (2000) found the same difficulties in Pakistan. Glover and Siu (2000) report that lack of training courses in QM was a common barrier to implementing ISO 9000 standards in Chinese organisations. On the positive side, Berggern et al. (2001) found in a Swedish study that organisations which started training early in the process experienced a high level of awareness of quality and motivation to use ISO standards. As for practical recommendations, Val et al. (2003)
suggest that training courses should be oriented towards the application of statistical
techniques and tools, while Sun et al. (2000) propose training in managerial skills, such
as decision making, leadership and team building.

2.4.6 (F) Lack of motivation
Performance pay, profit-share, share options, flexible job descriptions, job rotation,
family-friendly polices, non-pay benefits and benefits covering spouse or family
members are motivational tools for employees (Sung and Ashton, 2005). Martinez-
Costa and Martinez-Lorente (2007) quote Terziovski et al. (2003) found a positive
relationship between managers’ motives for adopting ISO 9000 certification and
business performance. While, Sampaio et al. (2009) mentioned that there is an
interesting relationship between ISO 9001:2000 motivation and the corresponding
benefits. However, Poksinska et al. (2006) found that a lack of internal motivation
stopped the process of practicing the ISO 9000 standards, or made it very slow. Sun et
al. (2000) suggest that a reward system would motivate employees to become actively
involved in the ISO 9001 programme.

Furthermore, lack of motivation was found by some researchers to be a barrier to
implementing ISO standards in certain countries. For example, Low and Ling Pan
(2004) list a number of barriers to effective ISO 9001:2000 implementation and
maintenance in Singapore organisations: inadequate recognition, respect and reward for
a good job done in achieving quality performance. Sharif (2005) also found limited
employee motivation to be a barrier to the implementation of ISO standards by Libyan
companies.

2.4.7 (G) Poor internal communication among the employees
Goetsch and Davis (2000, p.307) define communication as “the transfer of a message
(information, idea, emotion, intent or feeling) that is both received and understood”. In
the present context, Kelly (2000, p.92) quotes Daft’s (1997) definition of organisational
communication as “the process by which information is exchanged and understood by
two or more people, usually with the intent to motivate or influence behaviour”.

The lack of communication between departments in an organisation is one of the most
common barriers to ISO 9000 implementation, as discussed by Sharp et al. (2003),
Fuentes et al. (2000), Balzarova et al. (2002) and Glover and Siu (2000). For Al-
Zamany et al. (2002), poor communication happens because of a lack of trust between
employees and the difficulty of having a discussion with their managers about issues related to quality.

Again, there are reports in the literature of studies set in individual countries. For example, Sharif (2005) found a lack of communication in some companies in Libya, where the failure to communicate quality policy meant that the staff and employees were working without quality objectives or targets. Similarly, in a UAE study, Al-Haj (2006) found that there were no clear official rules for interdepartmental communication, so that employees considered the participation of other departments or units as an intervention in their jobs. Finally, Amar and Zain (2002) identify poor coordination between departments as a barrier to successful QMS implementation in Indonesian manufacturing organisations.

2.4.8 (H) Lack of time required to obtain ISO 9001:2000 certification
Dory and Schier (2002) warn that organisations need time to successfully implement the quality methods and processes that are necessary to achieve significant improvements. Similarly, Berggren et al. (2001) highlighted a plan for the certification process as a way to set time limits for the different steps. Stevenson and Barnes (2001) add that to become certified usually takes from about a year to two years, depending on the organisation’s size, current level of work quality, extent of current documentation, complexity of production process and management commitment. In the same year, Beskese & Cebeci (2001) found that organisations had been provided with insufficient time for their certification.

Furthermore, Sharp et al. (2003) found failure by organisations to allow sufficient time for evolution to be a barrier affecting successful implementation of ISO 9001:2000. Yahya and Goh (2001) state that time spent in the ISO 9000 registration process was a barrier to certification encountered by Turkish manufacturing organisations, while Balzarova et al. (2002) found that the time taken to spread a new way of dealing with responsibilities and tasks throughout an organisation was a barrier to successful QMS implementation in some firms in the UK. Withers and Ebrahimpour (2001) reveal that one of the most common obstacles faced by the eleven different European organisations in their study was implementation time. Finally, Low and Ling Pan (2004) found that too little time in the registration process was a barrier to implementing and maintaining ISO 9001:2000 effectively in Singapore.
2.4.9 (I) High cost of obtaining ISO 9001:2000 certification
Some researchers, such as Augustyn & Pheby (2000), Lo & Humphreys (2000) and Douglas et al. (2003) consider that the cost of implementing ISO 9001:2000 certification is too high. According to Martinez-Costa and Martinez-Lorente (2007), ISO 9000 supporters could argue that companies increase in quality but the market benefits do not compensate for the costs of implementing the standard and maintaining it. Authors who have proposed some reasons for this high cost include Stevenson and Barnes (2001), who believe that it is generated by training, time, consultancy fees and the registration fee itself. A similar list of factors is given by Sharif (2005), who found that the high cost of certification was a barrier facing most organisations in Libya and that it came mostly from training, consultancy fees, registration fees and the cost of upgrading the infrastructure to meet international standards.

Others who have identified cost as a barrier to implementing ISO 9001 in individual countries include Fuentes et al. (2000), who found a lack of financial capacity to meet the implementation cost and maintain a quality management system in Spanish organisations. Magd (2006) reports that the most important problem facing manufacturing organisations working with registration agencies in Egypt was the high costs associated with the auditing process. Tayyara et al. (2000) also identify high registration cost as a barrier encountered by both Turkish and Syrian manufacturing organisations during the ISO 9000 certification process, while Glover and Siu (2000) list high costs among obstacles to ISO 9000 certification in Chinese organisations. Yeung and Mok (2005) quote Pivka and Ursic (2002), who found that there was a high cost of implementing ISO 9000 in Slovenian companies. Yeung and Mok (2005) also note that manufacturing firms in China found the implementation of ISO standards costly, at least during the transitional period. Finally, in a survey of 399 companies in Spain, Casadesus and Karapetrovic (2005) found that although there was a considerable cost to implementation and maintenance of ISO 9000, most of the companies believed that this had decreased over time.

2.4.10 (J) Poor of documentation system
The ISO (2007) notes that the documentation of a QMS in any organisation is affected by the complexity and interaction of its processes and the competence of its people. The ideal QMS documentation, according to the new standard, is represented in the quality manual, which states quality policy and objectives as well as listing QMS procedures that describe interrelated processes, work instructions and other detailed documents.
Wealleans (2000) states that one of the main objectives of documenting system management is to keep up the practices in place so as to ensure the continuity of work methods and product quality. Yahya and Goh (2001) estimate that 80 per cent of failures by organisations to pass a certification audit is caused by factors such as inappropriate documents or poor control of documents and data.

Researchers identifying lack of documentation as a barrier to implementing ISO 9001 in particular countries include Beskeese and Cebci (2001), who surveyed Turkish industry. Similarly, Tayyara et al. (2000) report that difficulties in producing a quality manual and writing up procedures and work instructions were barriers to QMS implementation in Syrian organisations. In the UAE, Al-Haj (2006) discovered that some companies had changed from the older ISO 9000:1994 to the ISO 9000:2000 versions, but that employees continued to place much importance on documentation, which was perceived as a potential barrier.

2.4.11 (K) Lack of clear vision and vision
The management of an organisation should establish the mission, vision, policies and critical success factors, giving the staff and stakeholders a clear picture of their future organisation, according to Balzarova et al. (2002), who add that establishing a shared vision of the future of an organisation with all its stakeholders will reduce resistance to the change initiative. Quazi et al. (2002) states that lack of vision in the organisation is a common barrier to implementing ISO 9000, while Tayyara et al. (2000) found that quick profitability was the vision in some Syrian organisations and that this was a barrier to implementing ISO 9000 standards. In the UK, Balzarova et al. (2002) found that a failure to identify a clear mission as a performance measurement tool was one of the common organisational barriers to successful QMS implementation in some firms. Finally, Sherif (2005) observed a lack of strategic mission and objectives in Libyan companies because the executive managers did not feel secure in their positions.

2.4.12 (L) Limited availability of gaining information
Al-Haj (2006) believes that the main aim of an information system is to facilitate the gathering and sharing of information so that it is available across departments. This will give individuals and communities the tools for better environmental action and help to achieve the vision of the company. Conversely, Najmi and Kehoe (2000) consider that lack of integration between the quality information system and the existing management information system is a major barrier to ISO 9000 implementation.
Researchers who report that non-availability of information is a barrier to implementing ISO 9000 in particular countries include Amar and Zain (2002) in Indonesian manufacturing organisations and Al-Khalifa and Aspinwall (2000) in Qatari organisations. Fuentes et al. (2000) discovered that a lack of information and of communication routes where this necessary information could flow was a barrier to implementation in Spanish organisations, while in Singapore, limited exchanging of information was found to be a barrier to implementing and maintaining ISO 9001:2000 effectively (Low and Ling Pan, 2004).

2.4.13 (M) Failure to address customer satisfaction

According to ISO 9001:2000, the top management of an organisation should determine customer needs and expectations, then convert them to requirements. Communication of the importance of meeting customer requirements throughout the organisation and the awareness of customer requirements must be further promoted by managers, who must communicate with customers to discuss product orders, contracts or requirements and receive feedback. Customer feedback must then be used in management meetings to review current performance and improvement opportunities. Indeed, the measurement of customer satisfaction is an important factor in the determination of the effectiveness of QMS implementation (ISO, 2007). In addition, Quazi et al. (2002) emphasise the importance of customer orientation, commitment to satisfy customers, integration of customer satisfaction in the firm's goals and vision, and knowledge of customers' needs and expectations, stating that failure to provide these are major obstacles in exceeding customer expectations. Other barriers to ISO 9000 implementation are the failure to use customer feedback in new product design, to monitor customer satisfaction, to be responsive to customer complaints and to ensure a high level of interaction with customers (Quazi et al., 2002).

Additionally, Najmi and Kehoe (2000) point out that lack of customer focus is an obstacle to applying ISO 9000 standards. Again, the literature supplies evidence from individual countries. For example, Fuentes et al. (2000) identify lack of cooperation with customers as a barrier to implementing ISO 9000 standards in Spanish organisations, while Tayyara et al. (2000) found that customers of Syrian organisations had no alternative but to accept the products offered, which impeded ISO 9000 implementation. Poor customer satisfaction, failure to listen to customers' voices and the lack of alternatives for customers were some of the barriers to implementation identified in a study of Yemeni organisations (Al-Zamany et al., 2002). Finally, an
empirical study by Casadesus and Karapetrovic (2003) of about four hundred Spanish organisations certified with ISO 9001:2000 highlighted the difficulty of analysing customer satisfaction data as the biggest problem facing them.

2.4.14 (N) Limited employee involvement, authority and empowerment

Another factor affecting ISO 9001:2000 certification is the commitment of middle managers and workers (Antoni et al., 2002). Sun et al (2000) believe that without employee involvement, the future of ISO certification is not encouraging. They add that managers need to embrace a new management philosophy and a new attitude towards employees, who should in turn be provided with the necessary authority, information and skills. Similarly, Val et al. (2003) suggest that without involvement, employees will feel that ISO certification is a top-down process. Based on a survey in Spain, Torre et al. (2001) reports that the greater the degree of involvement of the employees, the less time was taken to obtain the registration of the firm. In another study, Dick (2000) found that some employees who had a good idea would hesitate to put it forward in order not to interfere with somebody else’s domain of responsibility. He adds that employee involvement brings benefits to a company, such as:

- Greater employee responsibility.
- Accountability and quality consciousness among staff.
- Better use of time and resources.
- Continual improvements to quality and efficiency.
- Improved profit and wider market opportunities.

Sharif (2005, p.213) states that “management should adopt a teamwork approach to involve workforce members in improvement process activities and solving problems". Furthermore, some researchers have found that lack of employee involvement is a barrier to implementing ISO 9000. For example, Park et al. (2007) report a lack of employee involvement in South Korean manufacturing companies, where senior managers are not personally involved, nor are any of the lower level employees regarding the 8 quality principles, as the quality management system is maintained by the quality department only. Fuentes et al. (2000) state that resistance to change by employees who feel that they are losing influence over decision making and that new tasks and responsibilities are created in quality management system implementation is a major barrier to implementing ISO 9000 in Spanish organisations. In Pakistan, lack of employee support and participation are identified as impediments to starting the ISO
9000 implementation process (Awan and Bhatti, 2003), while in Poland and Russia, a lack of employee involvement, inherited from the command economy, is also a major barrier (Dickenson et al., 2000). Low and Ling Pan (2004) report that low employee participation was a barrier to implementing and maintaining ISO 9001:2000 standards in organisations in Singapore, while Sharif (2005) found that the organisational structure was still centralised in some Libyan organisations. The managers did not involve employees in decision making and the latter could not identify and implement solutions in their own areas without management knowledge or permission. The panel of 14 experts consulted by Heras (2008) in Spain agreed that employees should be involved from top to bottom.

2.4.15 (O) Limited calibration process
Yahya and Goh (2001) report that 80 per cent of the failure of organisations in certification audits is caused by factors such as improper calibration of tools and gauges. Similarly, lack of calibration agencies and non-availability of quality auditors are some impediments to the ISO 9000 implementation process in Pakistan (Awan and Bhatti, 2003). Fuentes et al. (2000) states that a barrier to implementation in Spain was the difficulty of gaining access to test laboratories, while Sharif (2005) found that there was no role for calibration in Libyan national standards. This means that most companies hired foreign agencies to carrying out calibration, leading to high costs and variation in calibration from one company to another.

2.4.16 (P) Poor consultants and quality certification bodies
The ISO 9001:2000 standards are intended to be applicable to all organisations (Hoyle, 2001). To make the standards fit with a company’s operations, its essential to take guidance from consultants (Augustyn & Pheby, 2000). Similarly, Berggren et al. (2001) state that companies use consultants to make the ISO 9001:2000 certification processes easier and faster. On the other hand, Costa and Lorente (2007) warn that not all auditing companies have the same ways of understanding the standards and that some of them could have flexible auditing procedures. This means that two companies in the same sector certified by different companies could be applying the standard in very different ways. In a study of Spanish and Swedish organisations, Fuentes et al. (2000) identify a shortage of external advisors properly qualified in a certain sector of activity as another barrier to ISO 9000 implementation. Similarly, Sharp et al. (2003) found that a lack of clarity regarding the role of certification bodies was a barrier to successful
implementation of ISO 9001:2000 in the UK. In China, Zeng et al. (2007) found a lack of commitment by some certifying bodies, which happened because:

- Some certifying bodies only focused on the quality management system without paying attention to the companies' management systems after certification.
- Some certifying bodies did not adopt any review or remedial measures when serious quality and safety violations occurred in the certified companies.
- Some certifying bodies considered pursuing commercial benefits, leading to excessive competition between certifying bodies because of the rapidly growing market.

On this last point, Al-Haj (2006) concludes that strong competition among certification companies and consulting firms prevented organisations from obtaining the real value of ISO 9000 certification, because the certification companies involved were offering low prices to improve their business in a highly competitive market.

2.4.17 (Q) Poor in the organisational management processes
Bamber et al. (2002) believe that a part of the success of any organisation depends on how effectively it manages business processes. Thus, the understanding of process mapping and its integration is a key factor in the successful implementation of the new standard. Stanies (2000) suggest that the processes should be designed through a consensus meeting.

However, these conditions are not always fulfilled. Among the obstacles to the ISO 9000 implementation process, Rohitratana and Boon-itt (2001) list a lack of knowledgeable specialists in this subject matter; lack of understanding of the details of quality standards from the enterprise's point of view, causing a delay in implementation; and lack of support and co-operation from the staff, which invariably results in resistance. Boiral and Roy (2007) suggest that adoption of ISO 9000 can create more bureaucracy in the work. Also, Martinez-Costa and Martinez-Lorente (2007) report that the ISO 9000 standard slows the production process by introducing too much bureaucracy into the company. The bureaucratisation process associated with the adoption of norms may make the organisation place emphasis on producing related documentation rather than assuring the functioning of the system and QI (Santos and Escanciano, 2002). Indeed, the introduction of a process-based-approach in the ISO 9000 standard and changing from twenty requirements in ISO 9000:1994 to five clauses in ISO 9000:2000 are an attempt by the ISO organisation to reduce the amount
of documentation required. Notwithstanding these changes, there is a fear that the focus on procedures will develop new quality bureaucracies (Vouzas and Gotzamani, 2004). Moreover, in some organisations it is impossible to establish process-based management because of their strong hierarchal organisational structure. In fact, managing these processes is harder than it may be perceived to be, because processes do not stand alone but interact with one another (Bamber et al., 2000).

Furthermore, Al-Haj (2006) found in some UAE companies that management was characterised by heavy bureaucracy. The decision making in most departments was centralised within the departments and most of their work was paper based. Physical documents were shifted from table to table of various departments, so that final authorisation and decision making were very slow. Similarly, lack of understanding of process-based thinking, process mapping and its integration were barriers to successful implementation of ISO 9001:2000 in organisations in the UK (Sharp et al., 2003). Sharif (2005) also found that the certification process was seen by some managers in Libyan companies as a very bureaucratic process, because they needed to record, control, review and document everything, which was considered a boring job. Based on research in Swedish organisations, Berggern et al. (2001) report that a plan for the certification process is often a way to give structure to the work and time limits for the different steps. They add that as ISO 9001:2000 certification takes a fairly long time, it is crucial to start with successful activities in order to develop a positive attitude for the rest of the work. Moreover, Val et al. (2003) argue that the emphasis should be put on the standardisation and formalisation of production and processes, instead of the improvement of the firm’s image. Nwankwo (2000) reports that managers do not have an absolute understanding of ISO 9001 and its purpose. He adds that the way ISO 9001 has been implemented does not ensure the promised result.

2.4.18 (R) Resistance to change
Usually, there is resistance to change. Employees are afraid of the unknown, of losing skills and status, and of not being able to cope (Mohamed, 2005). Fuentes et al. (2000) found that resistance to change came from middle managers who feared losing influence over decision-making and employees in general when new tasks and responsibilities were given to them. Sharif (2005) adds that employees want to escape from new responsibilities. Despite quality being the responsibility of everybody in the company, employees were convinced that quality was not their responsibility, but that of the quality department. Employees avoid taking responsibility which might bring them into
conflict with other staff or require them to do more work without recognition. Extra work means people may have to learn more information or develop new skills related to QMS issues.

Some researchers have found that resistance to change was a barrier in implementing ISO 9000 in individual countries. For example, Al-Zamany et al. (2002) observed resistance to change in Yemeni organisations as a result of the implementation of a western model of quality management, characterised by cultural tensions. Similarly, in Qatari organisations, where a bureaucratic culture that was prevalent, cultural change and employee resistance to change were among the major obstacles to implementing ISO 9000 (Al-khalifa and Aspinwall, 2000). Beskese and Cebci (2001) point out that the difficulty most frequently encountered during the certification process in Turkish organisations was changing the existing culture and systems, while Amar and Zain (2002) observed such resistance to change in Indonesian manufacturing organisations, as did Fuentes et al. (2000) in Spanish companies and Sharp et al. (2003) in UK organisations. Curry and Kadasah (2002) report that the most significant organisational cultural barriers seen in Saudi Arabian manufacturing organisations were the need to change the existing system and resistance to change by employees. Tayyara et al. (2000) studied ISO 9000 implementation in Syrian organisations and found that employees' resistance to change was a common cultural barrier to its success. Similar results are reported by Balzarova et al. (2002) in some UK firms, by Dickenson et al. (2000) in Russian organisations, by Withers and Ebrahimpour (2001) in a study of eleven different European organisations, by Low and Ling Pan (2004) in Singapore and by Samson et al. (2009) in some non-profit companies in UK.

Raymond (2002) summarises the common reasons for people to resist change as:

- Older employees perceive a threat to their positions of authority.
- Many employees do not want the challenge of learning new skills.
- Many employees may feel stressed when required to move out of established comfort zones.
- The workers see the quality management system as a tool that management could use to punish them.
- Quality is a swearword in the language of many workers.
- Fear of admitting error is the biggest barrier to effective logging of complaints.
• Employees are not working towards the long-term survival of the organisation and they do not perceive that their future would be connected with the future of the organisation.
• Employees want to follow instructions rather than to create proposals in their jobs.
• Employees avoid taking responsibility.
• Employees just look to their own benefits.
• Fear of the unknown – not understanding what is happening or why.
• Disrupted habits – feeling upset when old ways of doing things cannot be followed.
• Loss of confidence – feeling incapable of performing well under the new way of doing things.
• Loss of control – feeling that things are being done to them rather than by them or with them.
• Poor timing – feeling overwhelmed when things are moving too fast.
• Work overload – not having the physical or mental stamina to handle the change.
• Lack of purpose – not seeing a reason for the change or not understanding its benefits.
• Economic loss– feeling that their pay and benefits may be reduced or that they may lose their jobs.
• When employees have a strong feeling of being controlled by the system, they avoid undertaking more responsibilities, as the quality system requires.

According to Raymond (2002) resistance to change can be overcome in the following ways:

• Communication: The management should provide enough information to employees in advance regarding the need for change, its nature and planned timing. This action can reduce fear of the unknown and change team behaviour.
• Participation of employees in developing and implementing change can reduce fear of the unknown and lead to commitment.
• Guarantee: Management guarantees that employees will not be disadvantaged while they engage with any change activities such as training.
• Certainty: It is better to let people know exactly where they stand and to detail what is going to happen and when.
• Counselling: Non-threatening discussions can help in removing any angry feelings and facilitate voluntary employee acceptance of the change.
• Negotiation gives a margin of flexibility between all parties within the organisation.
• Reward: Managers and employees who contribute to the successful introduction of change should be motivated.
• Coercion: This usually involves the use of threats or punishment against those resisting change, such as loss of promotion, transfer, poor performance rating, pay cuts and termination.

2.5 Change Management

2.5.1 Background
Brown & Harvey (2001) believe that the reason for change in any organisation is to raise organisational efficiency or even to ensure its continued existence. Thus, change management is an essential tool in any organisation, including those established in a region such as the Middle East, where Jordan is located. This importance arises from two factors. First, since Jordan has limited income resources, it started privatisation, including in the mobile sector, in the late 1990s. Secondly, Jordan is one of the most stable countries in the Middle East, which brings large foreign investments. These two points meant that industries should change their management and concentrate on the building of service-oriented, obtaining the latest technology to survive in the open market economy, and breaking into new and foreign markets in order to boost the country’s foreign income (Chapman and Al-Khawaldeh, 2002).

2.5.2 Definition of change management
Hughes (2006, p.2) defines change management as “attending to organisational change transition processes at organisational, group and individual levels”. He states that all employees should be involved in the change process, rather than a single change manager, although the amount of participation may vary considerably at different hierarchical levels. The definition adds that change may be planned or developed. For Hayes (2002, p.1), change management is about “modifying or transforming organisations in order to maintain or improve their effectiveness”. Finally, Duck (1998) states that it means managing the organisational framework in which change can take
place and managing the emotional connections that are vital for any transformation. Change can be described as a move from one state to another through transitional stages (Mohamed, 2005).

2.5.3 Organisational change
Hughes (2006, p.2) defines organisational change as "new ways of organising and working", while Watson (2002, p.59) offers the following definition: "to work arrangements involving relationships, understandings and processes in which people are employed, or their services otherwise engaged, to complete tasks undertaken in the organisation's name". Examples of organisation-wide change might include a change in mission, restructuring operations, new technologies, mergers, major collaborations and new programmes (Paton and McCalman, 2000). Senior and Fleming (2006) deduces that change occurs when there is imbalance between the sum of the restraining forces (such as cultural effects, unclear vision, lack of confidence, lack of sufficient resources, and job design) and driving forces (such as customer satisfaction, resource availability, worldwide competition, technology awareness, and high demand for such services or products). Senior managers must have a good understanding of how to manage teams, which begins with a clear mission statement, analysis of the critical success factors, understanding the key processes and developing the organisational structure (Mohamed, 2005). Senior and Fleming (2006) suggests that depending on factors such as strategy, technology, size, the degree of predictability of the environment and lifestyle of employees, an organisation could be successful and respond to the need for change.

2.5.4 The importance of change management
Hayes (2002, p.64) believes that "recognising the need for change is an essential step in starting the change process. A leader might want to reflect on his own experience and consider how good his unit or organisation has been at recognising the need for change". For their part, Allan et al. (1996) consider that most managers and executives would agree that change has become a constant phenomenon which must be attended to and managed appropriately if an organisation is to survive. They add that changes in technology, the marketplace, information systems, the global economy, social values, workforce demographics and the political environment all have significant effects on the processes, products and services produced. Further, Brown & Harvey (2001, p.165) emphasise the purpose of change as being "to increase organisational effectiveness or
even to ensure survival", adding that in the future, the only winning organisations will be those that respond quickly to change.

Preparation managers to cope with today's accelerating rate of change is the essential concern of these organisations. The modern manager must not only be flexible and adaptive in a changing environment, but also be able to diagnose problems and implement change programmes. Most organisations today are under severe pressure to proceed with organisational transformation in order to cope with increasing rates of environmental change and turbulence (Poole (1998). He added that rapid response is important to meet customer's demands, but not all organisations are able to make successful transformations. Therefore, understanding the importance of change management can help cope with changes and manage the way it is introduced. Organisations that do not change and adapt to the new competitive environment will be defeated in the marketplace and will disappear or be taken over by those that do (Raymond, 2002). Stone (2002) points out that a global organisation must adopt international best practices to secure a competitive advantage.

2.5.5 Change management and quality management
Oakland (2003) lists seven steps explaining the integration between change management and quality management:

- Gaining commitment to change
- Developing a shared mission or vision of the desired change
- Defining the measurable objectives
- Identifying the critical success factors of the mission
- Understanding the key processes
- Breaking down the key processes into sub-processes Monitoring and adjusting these processes.

Mohamed (2005) notes that a quality standard registration may mean moving from a current QMS to one that meets quality standard requirements. This view is supported by Tushman and Anderson (1997), who state that managing change involves moving an organisation from its current state to its desired state within a transition period. Thus, it is very important to understand the management implications of changes in quality systems.
While Abraham et al. (2000) suggest that cultural change is essential to ISO 9000 adoption, other researchers, such as Awan & Bhatti (2003), Nguyen et al. (2004), Sharif (2005) and A-Haj (2006), have found that cultural change was one of the impediments to ISO 9001 implementation. Culture serves as a foundation for an organisation’s management system, a good idea from management will not work if it does not fit the culture (Pool, 2000).

2.6 Research Background

2.6.0 Introduction
This chapter begins with an overview of Jordan and its private mobile sector, providing the contextual background to the study. Brief information is then supplied about quality management and ISO 9001:2000 in Jordan, which is the topic of this research.

2.6.1 The Hashemite Kingdom of Jordan
Jordan has a strategic location at the meeting-point of Asia, Africa and Europe; therefore many of the world’s great civilisations have sought to rule this land, which has been under the dominion of the Sumerians, Babylonians, Mesopotamians, Nabateans, Greeks, Romans and Persians. From the mid-seventh century until the beginning of the twentieth, the land now comprising Jordan remained under the rule of Arab and Islamic dynasties, then it was administered by the United Kingdom (UK) under a League of Nations Mandate in 1920. In 1921, the Emirate of Trans-Jordan was established. The British Mandate over Trans-Jordan was ended in May 1946 and the name of the country became the Independent Hashemite Kingdom of Trans-Jordan. Finally, in 1950 the country was renamed the Hashemite Kingdom of Jordan and it terminated its special defence treaty with the UK in 1957.

The total area of Jordan is almost 90 000 square kilometres. As can be seen in Figure 2.3, it is bordered by Syria to the north, Iraq to the northeast, the Palestinian Territories (West Bank) to the west and Saudi Arabia to the east and south. At the end of 2007, the population of Jordan was 5,723,000 (Department of Statistics, 2008). Its unit of currency, the dinar, is worth roughly one pound sterling. The gross domestic product (GDP) at current market prices at the end of 2007 was JD11, 225 (CBJ, 2008).
2.6.2 Mobile sector in Jordan

In 1999 Jordan joined 135 nations in the World Trade Organisation (WTO), to become a full member in 2000. It fulfilled its commitments related to the telecom sector, which included the full liberalisation of the sector by 2004. In addition, Jordan established the Telecommunication Regulatory Commission (TRC) under the Telecommunication Law of 1995 (amended in 2002), to regulate its telecom market (for more information, see Appendix 8). Reports by the Central Bank of Jordan (2006) indicate that the contribution of the combined telecommunication and transportation sector has almost remained stable over the last five years with good contribution. Table 2.7 shows the vital contribution of this sector to GDP.

Table 2.7: Telecommunications and transport as a percentage of GDP

<table>
<thead>
<tr>
<th>Year</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contribution to GDP</td>
<td>18.1%</td>
<td>17.9%</td>
<td>18.0%</td>
<td>17.9%</td>
</tr>
</tbody>
</table>

Source: Central Bank of Jordan (2008)

The mobile telephone sector in Jordan has developed significantly in the past few years, with very strong investment and the introduction of a number of measures by the
government to ensure proper regulation and functioning of this most vital of sectors. By the end of 2007, the mobile companies had achieved a revenue of JD626 million, an increase of 13% over the previous year (AlGad, 2008) compared to 6% growth in the GDP (CBJ, 2008). The sector has attracted private investment which has in turn fuelled innovation in service, reduction in prices and increased quality of service, as well as providing wider consumer choice. The government also realised from the beginning the importance of keeping pace with international developments in this field and of encouraging investment in telecom infrastructure and services. It recognised that such investment would not come unless the path was opened for the private sector to invest in telecommunications, and that it must find the most effective means to attract investors to the sector and encourage them to provide innovative services that would benefit users and the national economy. The government success in this field was shown when the Association of Information Technology Companies announced that government revenues from the mobile sector had reached JD654 million in the last five years. The national strategy for this sector aims to increase its income to JD2.13 billion and the number of job opportunities to 9000 in 2011 (Alrai, 2008).

Mobile penetration in Jordan has surpassed fixed line penetration by a ratio of about 5:1 and stood at roughly 87.5% of the population at the end of 2007. The penetration rate was relatively low prior to 2001, hindered by a monopoly market structure and limited price reductions on the part of the incumbents. There was then a period of explosive growth from 2001 to 2007, largely because of the launch of the prepaid service and the increase in competition. This induced lower prices and a wider array of services and packages, pushing the number of subscriber to over 4.77 million by 2007. The penetration rate is close to that in European countries and Australia, which is up to 100%, almost the same as the rate in the United States of America, which is up to 75%, and ahead of most African countries, which are on average around 25% (Al-Khayma, 2008). In addition, 86% of Jordanian households have a cellular phone and 70% of them have more than one mobile line. Monthly, the average spending on mobile phone services is JD28, while the average mobile phone bill is JD11 (AlDustour, 2008).

Other indications of the growth of cellular services are that Jordan imported 1.24 million handsets at a cost of JD469 million in 2007 (AlGad, 2008), that the government broadcast 8.7 million messages with service and guidance content in 7 months during 2007 and that an average of 4 million messages are sent each day, increasing to 12
million during religious holidays (AlGad, 2008). Further, in an opinion poll on the
popularity of various professions held in Jordan in 2007, 25% of respondents said that
they would like to work in the mobile sector (Alrai, 2008). A report by TRC (2008) lists
some indicators of the growth of the mobile sector (Table 2.8).

Table 2.8: Indicators of growth in the mobile sector

<table>
<thead>
<tr>
<th></th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of subscribers (millions)</td>
<td>1.325</td>
<td>1.624</td>
<td>3.138</td>
<td>4.343</td>
<td>4.772</td>
</tr>
<tr>
<td>Penetration rate</td>
<td>25.5%</td>
<td>30.3%</td>
<td>57%</td>
<td>78%</td>
<td>87.5%</td>
</tr>
<tr>
<td>Volume of investment (JD millions)</td>
<td>95</td>
<td>117</td>
<td>148</td>
<td>162</td>
<td>132</td>
</tr>
<tr>
<td>Number of employees</td>
<td>1,249</td>
<td>1,641</td>
<td>2,124</td>
<td>2,251</td>
<td>2,283</td>
</tr>
</tbody>
</table>

Source: TRC (2008)

The first private operator in Jordan was Zain Telecom, which introduced its mobile
service in 1995 and benefited from a 5-year exclusivity period guaranteed by the
government. In 1998 the government started a privatisation process, selling the public
telecommunication companies. As a result, Orange, another mobile company which is a
wholly owned subsidiary of Jordan Telecom (JT), launched its operations in September
2000 and was granted a 3-year duopoly with Zain. In addition, Jordan's regulatory
body, the Telecom Regulatory Commission (TRC), granted Xpress Telecom a license to
operate a radio-trunking network, launched in May 2004. Finally, a fourth mobile
company, Umniah, was launched in 2006 (Global Research, 2006). In terms of share of
the Jordanian cellular market, AlGad (2008) reports that Zain had the highest at 39%,
followed by Orange at 33.5%, Umniah at 26.2% and Xpress at 1.3%.

As noted in the introduction, Jordan has four mobile operators, while in the Arab region
as a whole there are 48 mobile operators distributed over 18 countries, indicating the
highly competitive nature of the market. In fact, Jordan was the only Arab country to
have four mobile operators until 2008, when Saudi Arabia and Yemen joined it with
four each. In addition, Jordan is ranked seventh in terms of the number of subscribers
and eighth in terms of penetration rates, which indicates a highly developed cellular
market in Jordan. Moreover, TRC has announced that in 2009 it will allow the
introduction to Jordan of virtual mobile operators, companies which will provide mobile
services without having the infrastructure such as their own transmission masts, simply
reselling services through the infrastructure of the existing mobile operators. No such
virtual mobile companies operate in any of the Arab countries, but they do exist in
many European countries, such as Denmark and France (Al-Gad, 2008).
2.6.3 Quality in Jordan

2.6.3.1 ISO in Jordan
The Jordanian government began a programme of privatisation in the late 1990s, transferring much economic activity from the public to the private sector. In line with this government policy, Jordanian companies concentrated on becoming service-oriented industries, which meant seeking enhanced product quality, increased productivity, increased profitability and a greater ability to meet internal and external challenges and competition. It was believed that the adoption of QMS standards by Jordanian organisations would encourage them to become competitors in the internal and global markets. One of the best known QMS standards is ISO 9000. The implementation of ISO 9001:2000 standards by Jordanian organisations started in 1995 and by the end of December 2005 there were 293 companies registered as compliant with ISO 9001:2000 in Jordan (ISO 9000 survey, 2006).

2.6.3.2 Jordan Institution for Standards & Metrology
JISM is an administratively and financially independent institution whose main aim is the adoption of a national system of standardisation and metrology based on accepted international practices. One of JISM’s objectives is concluding agreements with regional and international organisations regarding laboratory accreditation and the competence of the bodies granting such certificates. It is the sole authority in Jordan in all matters relating to standards, metrology and the Jordanian Quality Mark, and for issuing these standards. The standardisation department of JISM applies accepted international practices and procedures in preparing and reviewing Jordanian standards, taking into consideration all the requirements of the agreements signed by Jordan at the international and regional levels. JISM is authorised to issue ISO 9001:2000 in Jordan and is the representative of the ISO 9000 in Jordan (JISM, 2008).

2.6.3.3 King Abdulla II Award for Excellence
The King Abdullah II Award for Excellence is the highest level of quality recognition in Jordan. The award aims at enhancing the competitiveness of Jordanian businesses by promoting quality awareness and performance excellence, recognizing the quality and business achievements of Jordanian companies, and publicizing their successful performance. The award is made every two years, and JISM was the winner of the award in the last round (Kaa, 2008).
There have been few studies into the application of quality management in the different sectors of the Jordanian economy, but there are some which are relevant and an examination of these will enhance and enrich the present study. These are discussed in the following paragraphs.

Al-Madi (2005), in a study of the impediments to the adoption of total quality management (TQM) in Jordanian ISO 9000 series certified manufacturing companies, found that such companies had a low level of understanding of the purpose of ISO 9000 and TQM. The longer participants had worked for the company concerned, the better their understanding of the purpose of ISO 9000, but not of the purpose of TQM. The study also revealed that companies planning to continue their quality management journey towards TQM were those which gave greater importance in their certification decision to factors related to internal improvement rather than external pressure.

Tarawnah (2002) conducted a study aiming to shed some light on the quality of pharmaceutical companies in Jordan. He explored the relationship between quality and competitiveness, and that between competition policies and competitiveness, focusing on ten companies registered before the end of 1994 and investigating their financial records for the period 1995-1999. The results of the study showed a moderate application of the dimensions of quality, a moderate and varied application of competition policies and a lack of priority and integration. In addition, the study revealed significant relationships between quality and competition policies, in opposition to those existing between quality and competitiveness, and between competition policies and competitiveness.

Mualla and Al-Tae’e (2003) attempted to determine Arab tourists’ evaluation of the quality of the services provided by Jordanian hotels, in addition to determining the effects of a set of demographic variables on that evaluation. Their study also provided a relatively valid and reliable measure of the quality of hotel services in Jordan. A sample of 450 Arab tourists was used for the purpose of the study. The findings were that their evaluation of the quality of the hotel services was negative and that this was unaffected by the demographic variables, except for nationality.
2.7 Chapter summary

This chapter has presented an extensive review of the literature to provide a deep understanding of issues related to ISO 9001:2000 implementations in Arab, western and Asian countries, thus addressing the first two objectives of this research. The literature on quality management systems in general was reviewed. In particular, ISO 9001:2000 was found to be a quality/business improvement philosophy involving continuous improvement of processes, products and services, enhanced productivity, reduced costs and increased total customer satisfaction. The fourth section of this chapter examined in turn the most common barriers to the successful adoption of QMSs that have been mentioned by many researchers. These barriers which are listed in Table 2.9 will help the researcher to understand the barriers to implement the ISO 9001:2000 in the Jordanian context which is the main aim of this research. The importance of change management and its relationship with quality, has been discussed in part five of this chapter. Finally, part six has contains an overview of Jordan, where this research has been conducted.

Table 2.9: list of common barriers affecting the implementation of ISO 9001:2000 certification, found in the literatures.

<table>
<thead>
<tr>
<th>Code</th>
<th>The barrier</th>
<th>The researcher’s name, the year of its publishing</th>
</tr>
</thead>
<tbody>
<tr>
<td>D</td>
<td>Lack of resources requirements.</td>
<td>Fuentes et al. (2000), Amar and Zain (2002), Al-Zamany et al. (2002), Tayyara et al. (2000), Najmi</td>
</tr>
<tr>
<td>Cell</td>
<td>Description</td>
<td>References</td>
</tr>
<tr>
<td>------</td>
<td>-------------</td>
<td>------------</td>
</tr>
<tr>
<td>K</td>
<td>Lack of clear vision and mission</td>
<td>Balzarova et al. (2002), Quazi et al. (2002), Tayyara et al. (2000), Balzarova et al. (2002), and Sharif (2005).</td>
</tr>
<tr>
<td>N</td>
<td>Limited employee involvement, authority and empowerment</td>
<td>Awan and Bhatti (2003), Dickenson et al. (2000), Fuentes et al. (2000), Low and Ling Pan (2004), Sharif (2005), Park et al. (2007)</td>
</tr>
<tr>
<td>Q</td>
<td>Poor in the organisational management process</td>
<td>Rohitratana and Boon-itt (2001), Boiral and Roy (2007), Alhaj (2006), Sharp et al. (2003), and Sharif (2005).</td>
</tr>
</tbody>
</table>
CHAPTER THREE

RESEARCH METHODOLOGY

3.0 Introduction
This chapter analyses the various philosophies, approaches, strategies and methods of data collection used in research, demonstrating the reasons for the methodological choices made in this study. It then describes the structured interview protocol and considers the validity and reliability of the methods of analysis employed to address the aim and objectives of the research.

3.1 Definition of research methodology
Many different definitions of the concept of research methodology have been given. Saunders et al. (2007) define research methodology as: “Something that people undertake in order to find out things in a systematic way, thereby increasing their knowledge”. Likewise, Kruger (2001) defines research methodology as the application of various systematic methods and techniques to create scientifically obtained knowledge. Hence, research methodology is the systematic way a researcher works using the appropriate methods to collect and analyse data and to properly identify issues to be discussed, as well as the objectives of his study.

3.2 Purpose of the research
Collis and Hussey (2008) categorise research according to its purpose, listing the following types: exploratory research is that which is conducted to examine a problem or issue when there are very few or no earlier studies which can be referred to for information on it; descriptive research describes phenomena as they exist; analytical or explanatory research is a continuation of descriptive research; and predictive research aims to generalise from the analysis by predicting certain phenomena on the basis of hypothesised general relationships. The present research is an explanatory and exploratory study whose aim is to investigate and identify the barriers to implementing ISO 9001:2000 in private mobile phone companies in Jordan.
3.3 Research philosophy
Saunders et al. (2007) state that the research philosophy reflects the way the researcher thinks about the development of knowledge, which in turn affects the way he goes about doing the research. According to Easterby-Smith et al. (2004), knowledge of research philosophy can help the researcher to recognise which design will work and which will not, in order to avoid going up blind alleys. Collis and Hussey (2008) mentioned that philosophy is an alternative term for paradigms. Many authors, such as Easterby-Smith et al. (2004), Saunders et al. (2007), Collis and Hussey (2008) and Remenyi et al. (1998), distinguish between two main philosophies: phenomenology and positivism. However, Collis and Hussey (2008) stated that positivistic paradigm has some alternative terms such as Quantitative, objectivist, Scientific, Experimentalist and Traditionalist paradigm, while Qualitative, Subjectivist, Humanistic and Interpretive are alternative terms for the Phenomenological paradigm. In this study the researcher will use the terms of positivistic, Quantitative, phenomenology and Qualitative.

Easterby-Smith et al. (2004, p.28) describe positivism as assuming that "the social world exists externally, and that its properties can be measured through objective methods rather than being inferred subjectively through sensation, reflection or intuition". Similarly, Milliken (2001) remarks that the key idea with positivism is that the social world exists through objective measures, instead of being inferred subjectively through sensation or intuition. Positivism follows the traditional scientific approaches to developing knowledge through research strategies, methods and interpreting results. Moreover, Collis and Hussey (2008) note that it proceeds from the belief that the study of human behaviour should be undertaken in the same way as studies in the natural sciences. Further, Creswell (2003) points out that quantitative researchers usually derive a problem from the literature, in which case a substantial body of literature may be available in terms of variables and existing theories, which may need testing or verification. Similarly, Ragin (1994) observes that quantitative methods concentrate directly on relationships among variables. Moreover, Bryman (2004) states that quantitative researchers emphasise careful control and measurement by assigning numbers to measurements. In the same way, Johnson (1997) claims that quantitative research concerns the aggregation of data, most of which are assigned numerical values. Lastly, Gummeson (2000) explains that quantitative research is concerned with questions such as ‘How much?’, ‘How often?’ and ‘How many?’
By contrast, Easterby-Smith et al. (2004, p.28) state that phenomenology “focuses on the way that people make sense of the world, especially through sharing their experiences with others via the medium of language. Social constructionism is one of a group of approaches as interpretative methods in other words; people construct their own words and give meaning to their own realities”. He mentioned in table 3.1 some distinguishing features of positivism and phenomenology.

Table 3.1: Contrasting features of positivism and phenomenology

<table>
<thead>
<tr>
<th></th>
<th>Positivism</th>
<th>Phenomenology</th>
</tr>
</thead>
<tbody>
<tr>
<td>The observer</td>
<td>Must be independent</td>
<td>Is part of what is being observed</td>
</tr>
<tr>
<td>Human interests</td>
<td>Should be irrelevant</td>
<td>Are the main drivers of science</td>
</tr>
<tr>
<td>Explanation</td>
<td>Must demonstrate causality</td>
<td>Aim to increase general understanding of the situation</td>
</tr>
<tr>
<td>Research progresses through</td>
<td>Hypotheses and deductions</td>
<td>Gathering rich data from which ideas are induced</td>
</tr>
<tr>
<td>Concepts</td>
<td>Need to be operationalised so that they can be measured</td>
<td>Should incorporate stakeholder perspectives</td>
</tr>
<tr>
<td>Units of analysis</td>
<td>Should be reduced to simplest terms</td>
<td>May include the complexity of whole situations</td>
</tr>
<tr>
<td>Generalisation through</td>
<td>Statistical probability</td>
<td>Theoretical abstraction</td>
</tr>
<tr>
<td>Sampling requires</td>
<td>Large numbers selected randomly</td>
<td>Small numbers of cases chosen for specific reasons</td>
</tr>
</tbody>
</table>

Source: Easterby-Smith et al. (2004, p.30)

Moreover, the Oxford English Dictionary presents the following definition for phenomenology: “the science of phenomena as distinct from being (ontology)” and “that division of any science which describes and classifies its phenomena”. Amaratunga (2002), Creswell (2003), Patton (2002), Hussey and Hussey (1997) and Collis and Hussey (2008) assert that phenomenology refers to the subjective aspects of human activity by focusing on the meaning rather than the measurement of social phenomena. This philosophy is also called the interpretive approach (Creswell, 2003). Further, Amaratunga (2002) comments that qualitative research is a source of well grounded rich descriptions and explanations of processes in identifiable local contexts. Furthermore, Denzin and Lincoln (1998) argue that the concept “qualitative” implies an emphasis on processes and meanings, which are not examined or measured in terms of quantity, amount, intensity or frequency. For Strauss and Corbin (1998), the
strengths of such a qualitative approach lie mainly in its ability to ascertain deeper underlying meanings and explanations of phenomena. Bell (1999) asserts that research adopting a qualitative perspective is more concerned with the understanding of individuals' perceptions of the world; they seek insight rather than statistical analysis. Table 3.1 shows contrasting features of positivism and phenomenology done by Easterby-Smith et al. (2004, p.30). He also did the strength and the weakness between each paradigm, it has been listed in Appendix 9. Moreover, table 3.2 lists some of the key features of qualitative and quantitative research concerning the data collection method, as given by Hussey and Hussey (1997).

Table 3.2: Key features of qualitative and quantitative research

<table>
<thead>
<tr>
<th>Qualitative</th>
<th>Quantitative</th>
</tr>
</thead>
<tbody>
<tr>
<td>Uses small samples</td>
<td>Uses large samples</td>
</tr>
<tr>
<td>Concerned with generating theories</td>
<td>Concerned with hypothesis testing</td>
</tr>
<tr>
<td>Data is rich and subjective</td>
<td>Date is highly specific and precise</td>
</tr>
<tr>
<td>The location is natural</td>
<td>The location is artificial</td>
</tr>
<tr>
<td>Reliability is low</td>
<td>Reliability is high</td>
</tr>
<tr>
<td>Validity is high</td>
<td>Validity is low</td>
</tr>
<tr>
<td>Generalises from one setting to another</td>
<td>Generalises from sample to population</td>
</tr>
</tbody>
</table>


Table 3.3: Assumptions of the two main research paradigms

<table>
<thead>
<tr>
<th>Assumption</th>
<th>Questions</th>
<th>Quantitative</th>
<th>Qualitative</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ontological</td>
<td>What is the nature of reality?</td>
<td>Reality is objective and singular, apart from the researcher</td>
<td>Reality is subjective and multiple as seen by participants in a study</td>
</tr>
<tr>
<td>Epistemological</td>
<td>What is the relationship of the researcher to that researched?</td>
<td>Researcher is independent from that being researched</td>
<td>Researcher interacts with that being researched</td>
</tr>
<tr>
<td>Axiological</td>
<td>What is the role of values?</td>
<td>Value-free and unbiased</td>
<td>Value-laden and biased</td>
</tr>
<tr>
<td>Methodological</td>
<td>What is the process of research?</td>
<td>Deductive process</td>
<td>Inductive process</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Cause and effect</td>
<td>Mutual simultaneous shaping of factors</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Static design-categories isolated before study</td>
<td>Context-bound</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Generalisations leading to prediction, explanation and understating</td>
<td>Emerging design-categories identified during research process</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Accurate and reliable through validity and reliability</td>
<td>Patterns, theories developed for understanding</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Accurate and reliable through verification</td>
</tr>
</tbody>
</table>

Source: Collis and Hussey (2008)
Moreover, Collis and Hussey (2008) also examine some fundamental assumptions behind each approach, which are compared in Table 3.3. The researcher feels that it is necessary to understand the assumptions and the features of each philosophy in order to enhance the choice of research methods.

3.3.1 Justification for choosing phenomenology as the research philosophy
This research has social features, dealing with beliefs, realities, attitudes and experience regarding the factors that hinder the implementation of ISO 9001:2000 in a particular context and with the way in which these ideas are exchanged between people. The choice of a phenomenological approach to this work is supported by authors including Hussey and Hussey (1997) and Collis and Hussey (2008), who affirm that phenomenology is the appropriate philosophy for studies that deal with the exchange of experience between people. It is also relevant that the researcher is involved in the context of the research, which refers to the subjective aspects of human activity, taking as examples the change of culture and top management involvement, and which focuses on meaning rather than measurement. This approach is also supported by researchers such as Easterby-Smith et al. (2004), Creswell (2003), Patton (2002), Amaratunga (2002) and Allison et al. (1996). Moreover, Leonard and McAdam (2001) suggest that phenomenology is the appropriate methodology in subjects that refer to quality management, as the present study does.

Further, this research is interested in rich descriptions and deep understanding of phenomena in a natural setting (ISO 9001:2000 implementation in Jordan). The choice of the qualitative as the appropriate philosophy is supported by Naslund (2002), Patton (2002), Ghauri et al. (1995), Hussey and Hussey (1997), Amarantuge (2002) and Bell (1999). This is an exploratory study investigating the process of meaning and experience that people bring and which requires the researcher to examine real-life events in order to explain why and how certain obstacles affect implementation in the context of these private mobile phone companies. In the same context, this study seeks to make inferences and to draw conclusions. Consequently, it is appropriate to use qualitative techniques, a philosophy which is supported by researchers including Denzin and Lincoln (1998), Amarantuge (2002), Gummeson (2000), Arksey and Knight (1999) and Ghauri et al. (2005). Moreover, since the study focuses on words rather than numbers, on sequences of events, interactions, behaviour and
transformation of culture rather than prediction, the qualitative philosophy is the most fitting, a conclusion which is supported by Moore (2000) and Hakim (2000).

3.4 Research approach
The research questions, along with the goals of the work, are considered crucial elements in the selection of the research approach. Consequently, Oppenheim (2000) argues that choosing the best approach is a matter of appropriateness.

3.4.1 Inductive and deductive approaches
There are two general approaches to the acquisition of new knowledge, namely inductive and deductive. According to Hyde (2000), the inductive approach is a theory building process, starting with direct observation of specific instances and seeking to establish generalisations about the phenomenon under investigation, while the deductive approach is a theory testing process which commences with an established theory or generalisation and seeks to establish by observation whether it applies to specific instances. Creswell (2003) and Patton (2002) state that one of the key differences between these approaches lies in how existing literature and theory are used to guide the research. The deductive approach is designed to test a theory; thus, the literature is used to identify questions, themes and interrelationships before data are collected. By contrast, the inductive approach builds a theory as the research progresses; themes are identified throughout the research process and the literature is used to explore different topics. In table 3.4 Saunders et al. (2007) shows the major differences between inductive and deductive approaches.

Nonetheless, Richards (1993) argues that there is no theory-free research and that all empirical work is based on some fundamental ideas. This point of view is supported by Martin and Cepeda (2005), who note that all researchers begin with some kind of conceptual framework and that it would be impractical for them to enter a field or engage in the research process with no framework or notion about relevant concepts in the area of interest. Moreover, Saunders et al. (2007) suggest that a combination of deduction and induction is not only perfectly possible within the same piece of research, but is often an advantageous approach. For that reason, the two approaches are adopted in this research: deduction is used in identifying the common barriers to implementing the ISO standard from the literature, before the inductive approach is applied in addressing the research aims.
Table 3.4: The major differences between deductive and inductive approaches

<table>
<thead>
<tr>
<th>Deductive approach</th>
<th>Inductive approach</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scientific principles</td>
<td>Gaining an understanding of the meaning humans attach to events</td>
</tr>
<tr>
<td>Moving from theory to data</td>
<td>A close understanding of the research context</td>
</tr>
<tr>
<td>The need to explain the causal relationship among variables</td>
<td>The collection of qualitative data</td>
</tr>
<tr>
<td>The collection of quantitative data</td>
<td>A more flexible structure to permit changes of research emphasis as research processes</td>
</tr>
<tr>
<td>The application of controls to ensure validity of data</td>
<td>A realisation that the researcher is part of the research process</td>
</tr>
<tr>
<td>The operationalisation of concepts to ensure clarity of definition</td>
<td>Less concern with the need to generalise</td>
</tr>
<tr>
<td>A highly structure approach</td>
<td></td>
</tr>
<tr>
<td>Researcher’s independence of what is being researched</td>
<td></td>
</tr>
<tr>
<td>The necessity to select samples of sufficient size in order to generate a conclusion</td>
<td></td>
</tr>
</tbody>
</table>

Source: Saunders, at el., (2007, p. 120)

3.5 Research strategy

A research strategy is a plan of how to answer research questions which will satisfy the research objectives (Saunders et al. 2007). Yin (2009) lists five different types of research design, summarised in Table 3.5.

Table 3.5: Relevant situations for different research designs

<table>
<thead>
<tr>
<th>Strategy</th>
<th>Form of research question</th>
<th>Requires control over behavioural events</th>
<th>Focuses on contemporary events</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experiment</td>
<td>How, why</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Survey</td>
<td>Who, what, where, how many, how much</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Archival analysis</td>
<td>Who, what, where, how many, how much</td>
<td>No</td>
<td>Yes/No</td>
</tr>
<tr>
<td>History</td>
<td>How, why</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Case study</td>
<td>How, why</td>
<td>No</td>
<td>Yes</td>
</tr>
</tbody>
</table>

Source: Yin (2009, p.8)
A definition of the case study as a research strategy is given by Yin (2009, p.17) in two ways, the first being a technical definition beginning with the scope of a case study: "an empirical inquiry that investigates a contemporary phenomenon within its real-life context, especially when the boundaries between phenomenon and context are not clearly evident." Secondly, the case study is defined as "a research strategy which comprises an all-encompassing method, covering the logic of design, data collection techniques, and specific approaches to data analysis". According to Yin (2009), case study research is concerned with the interaction of factors and events, and is the preferred design under certain circumstances and for certain research problems. Its great strength is that it allows the researcher to focus on a specific instance or circumstance and to attempt to identify the various interactive processes at work. It is also argued that the case study approach is appropriate for researchers since it gives them the chance to identify the problem to be studied in depth within a limited timescale (Bell, 1999). Moreover, the essence of a case study is that it tries to illuminate a decision or set of decisions: why they were taken, how they were implemented and with what result (Yin, 2009).

3.5.1 Number of case studies
Having settled on the case study strategy, the question arises whether to examine a single case or multiple cases. Yin (2009) advises that the single case can be used to determine whether a theoretical proposition is correct or whether some alternative set of explanations may be more relevant. It is also appropriate to use this strategy when the case represents an extreme or unique case. On the other hand, Voss et al. (2002) argue that although a single case study can offer greater depth of study, it has limitations as to the generalisability of any conclusions drawn. It could also lead to bias, such as misjudging the representativeness of a single event and exaggerating easily available data. Yin (2009) and Lee (1992) observe that multiple case studies are more common and are generally used to replicate findings or support theoretical generalisations. Indeed, multiple case study research increases external validity and guards against observer bias (Leavy, 1994). Thus, Yin (2009, p.63) notes that "criticisms may turn into scepticism about the ability to do empirical work in a single case study. Having multiple cases can begin to blunt such criticisms and scepticism". As a result of these considerations, it was decided that the appropriate research design for the present study would be a multiple set of case studies replicating the same phenomena under different conditions.
3.5.2 Justification for adopting the case study strategy

According to Blau et al. (1996), the strength of the case study is its ability to deal with a full variety of evidence such as documents, interviews and direct observations, beyond what might be available in the conventional historic study. The case study investigates a contemporary phenomenon within its real-life context; when the boundaries between phenomenon and context are not clearly evident; and in which multiple sources of evidence are used (Yin 2009). The main objective of this study is to gain empirically an in-depth understanding of the barriers affecting the implementation of ISO 9001:2000 in private mobile companies in Jordan. Some authors have stated that the most appropriate strategy to use in such research is the case study. For example, Saunders et al. (2007) assert that a case study is valuable if the researcher wishes to gain a rich understanding of the context; it is a worthwhile way of exploring existing theory. Similarly, Jankowicz (2005) mentions that the advantage of case study research is that it enables comprehensive and informative data to be generated. This view is supported by Gummesson (2000), who states that a case study can verifiably achieve full saturation by gathering appropriate information. Moreover, Yin (2009) recommends that for research which focuses on ‘what’, ‘why’ and ‘how’ questions, the case study approach is ideal. The present research, in exploring the effect of barriers to ISO implementation, addresses ‘how’ and ‘why’ questions; and by focusing on contemporary events in Jordanian organisations it explores ‘what’ questions. Further, Bamber (2002) suggests that case studies are ideal to study quality management issues and adds that the intangible nature of certain elements such as culture change, resistance to change and improvement in some of the organisations makes this all the more relevant. The case study is deemed appropriate in the present research, since these elements are related to its aim. Finally, Bell (1999) states that the case study is a useful strategy for converting tacit knowledge into explicit knowledge, so practitioners can learn more about the performance of their business systems.

3.5.3 Justification of the choice of case studies

Having decided to adopt the case study strategy as being likely to provide the best sources of data relevant to the current research, it was necessary to choose the cases for study. In the event, all four private mobile phone companies in Jordan were selected; two of these were certified as compliant with the ISO 9001:2000 standard, while the other two were not. The researcher chose to conduct four case studies to gain an in-depth understanding of the information necessary to identify and investigate the barriers to implementing ISO certification within these organisations. The rationale for
choosing the certified companies is that they may be assumed to have faced potential barriers throughout the process of ISO 9001:2000 implementation. Conversely, the other two companies were chosen in order to examine the factors preventing or dissuading them from obtaining certification, and whether they wanted to attain it or not. The selection of a sample comprising both certified and uncertified companies is supported by researchers including Yahya and Goh (2001), Sharif (2005) and Al-Haj (2006) who have studied barriers faced by ISO certified and uncertified organisations.

3.5.4 Companies chosen for case studies

In this section, the researcher will mention brief information about the case study companies, the details will be in appendix 14.

3.5.4.1 Zain

3.5.4.2 Orange
Orange is Jordan’s second mobile network, launched in September 2000. It has three telecommunication services together which are fixed, mobile and internet. Orange employs 620 people in its mobile business in Jordan and got ISO 9001:2000 certification in February 2007. Orange got the second market share in Mobile sector with 33% (Al-Ghad, 2008).

3.5.4.3 Xpress
Xpress became the third private mobile company in Jordan when it launched its wireless and mobile services in June 2004. Xpress has over 200 employees and the market share in mobile sector represented a 1.5% at the end of 2007. Xpress is not interesting in obtaining ISO 9001:2000 certification (TRC, 2008).

3.5.4.4 Umniah
The Umniah mobile company became the fourth mobile telecommunication provider in Jordan in August 2004. Umniah has 320 employees and by December 2006, its market share had increased to 17% and at the end of 2007 it stood at 26.5%. Umniah is in the process to obtain ISO 9001:2000 in nearest future (TRC, 2008).
3.6 Data collection methods

Methods are what researchers use in order to explore, define, understand and describe phenomena, and to analyse the relations among their elements, they are the ways of collecting evidence during data gathering (El-Khatib, 1992). Yin (2009) suggests six major sources of evidence to be used in the case study approach; these are listed in Table 3.6 and compared in terms of their strengths and weaknesses. Yin (2009) concludes that no single source of data has a complete advantage over others, while the use of multiple sources of evidence can help in clarifying the real meaning of the phenomena being studied. Silverman (1993) and Denzin and Lincoln (1998) also encourage researchers to use more than one method and recognise the value of using multiple methods for the corroboration of findings and to improve the validity of data. Such a multi-methods approach helps the researcher to overcome the possibility of bias associated with any single method (Collis and Hussey, 2008). Golafshani (2003) agree that the use of multiple sources of evidence can help substantially in improving the validity and enhancing the reliability of the research. Accordingly, the present research combines semi-structured interviews, direct observation and the examination of archival records, aiming to benefit from the strength of each method to obtain a wide variety of data as well as gaining an in-depth understanding of the subject.

3.6.1 Interviews

Amaratunga (2002. p4) provide a definition of the qualitative research interview as one “whose purpose is to gather descriptions of the life-world of the interviewee with respect to interpretation of the meaning of the described phenomena”, while Saunders et al. (2007) describe an interview as a purposeful discussion between two or more people. This method provides valid and reliable data which are relevant to the research purposes. Indeed, Yin (2009) states that interviews are one of the most vital sources of information in case studies; this is a valuable technique for obtaining data, particularly in the case of a qualitative case study approach. As for the different types of interview, Sekaran (2003) states that unstructured ones are usually conducted to obtain definite ideas about what is and is not important and applicable to a particular problem or situation. While it is true that structured interviews may provide more information in depth about specific variables of interest, in a semi-structured interview, the researcher can elucidate clarification of uncertainties and ensure that, on one hand, the respondents understand the questions, and on the other that their responses are clear to him.
Table 3.6: Strengths and weaknesses of six sources of evidence

<table>
<thead>
<tr>
<th>Source of evidence</th>
<th>Strengths</th>
<th>Weakness</th>
</tr>
</thead>
<tbody>
<tr>
<td>Documentation</td>
<td>- Stable: Can be reviewed repeatedly</td>
<td>- Retrievability: can be low</td>
</tr>
<tr>
<td></td>
<td>- Unobtrusive: not created as a result of the case study</td>
<td>- Biased selectivity, if collection is incomplete</td>
</tr>
<tr>
<td></td>
<td>- Exact: contains exact names, references and details</td>
<td>- Reporting bias: reflects bias of the author</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Access: may be deliberately blocked</td>
</tr>
<tr>
<td>Archival Records</td>
<td>- Same as above</td>
<td>- Same as above</td>
</tr>
<tr>
<td></td>
<td>- Precise and quantitative</td>
<td>- Accessibility may be limited for privacy reasons</td>
</tr>
<tr>
<td>Interviews</td>
<td>- Targeted: focuses directly on case studies</td>
<td>- Bias due to poorly constructed questions</td>
</tr>
<tr>
<td></td>
<td>- Insightful: provides perceived causal inferences</td>
<td>- Response bias</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Inaccuracies: interviewees say what they think interviewer wants to hear</td>
</tr>
<tr>
<td>Direct observation</td>
<td>- Reality: covers events in real time</td>
<td>- Time consuming</td>
</tr>
<tr>
<td></td>
<td>- Contextual: covers context of event</td>
<td>- Selectivity: poor, unless broad coverage</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Reflexivity: events may be processed differently</td>
</tr>
<tr>
<td>Participation / direct observation</td>
<td>- Same as for direct observation</td>
<td>- Same as for direct observation</td>
</tr>
<tr>
<td></td>
<td>- Insightful into interpersonal behaviour and motives</td>
<td>- Bias due to investigator’s manipulation of events</td>
</tr>
<tr>
<td>Physical Artefacts</td>
<td>- Insightful into cultural features</td>
<td>- Selectivity</td>
</tr>
<tr>
<td></td>
<td>- Insightful into technical operations</td>
<td>- Availability</td>
</tr>
</tbody>
</table>

Source: Yin (2009, p102)

3.6.1.1 Justification for choosing semi-structured interviews

The use in this study of the semi-structured interview method as part of a qualitative approach and a case study strategy is supported by many contributions to the literature, including that of Ghauri et al. (2005, p. 86) who note that “qualitative methods use relatively more qualitative techniques, such as conversation and in-depth semi-structured interviews”. This point of view is shared by Patton (2002), who suggests that the data in qualitative research might include transcripts of in-depth interviews, direct observations or documents. Of particular relevance to the present research are the assertions of Sekaran (2003) and Oppenheim (2000) that in-depth interviews can help researchers to understand the connotations of people’s activities and that this allows them to explain the purpose of the study and to clarify any doubt or avoid any misunderstanding. In contrast to an unstructured or conversational approach, a number of pre-determined questions have to be explored, rather than leave the respondents talking generally about the research problem.
The semi-structured interview is the most appropriate method for this research, since the aim is to investigate and identify the barriers to the implementation of ISO 9001:2000 in private mobile companies in Jordan. This choice is supported by researchers such as Yates (2004), who considers the interview is a good way of exploring participants' subjective meanings. The interviewer can tailor questions to ongoing concerns of the participants, who can talk about things the interviewer might not have thought about before; this may be of particular benefit to the study.

Saunders et al. (2007) also argue that semi-structured and in-depth interviews are used in qualitative research not only to reveal and understand the 'what' and 'how', but also to place more emphasis on explaining the 'why'. The present research focuses on words rather than numbers, on interactions and behaviour, on culture change and on people's experiences and attitudes. Since it is sometimes complicated to deal with sociological analysis, it seems that the interview method is suitable for application to this study. According to Jankowicz (2005), the semi-structured interview allows the flexibility required for such study, as the researcher would not be able to use the same questions at each interview. Finally, Hakim (2000) holds that in-depth interviews can also reveal the reasons for any discrepancy between stated attitudes and actual behaviour.

3.6.2 Documentation
Mason (2004) describes documentation as a research method that many qualitative researchers consider meaningful and useful in the context of their research strategy. Documentary information is likely to be relevant to every case study topic (Yin, 2009). To obtain reliable data, documentary evidence was used in the present research to overcome the low reliability of the data produced from interviews. The documents and records related to quality and to ISO 9001:2000 implementation include the minutes of meetings related to quality, management review results, reports of internal auditing results, quality documents and records, quality manuals setting out the company's quality policy and objectives, records of the organisational structure and job description documents, samples of training files, together with letters of complaint and replies referring to attempts to resolve customers' problems.

The researcher for example was able to examine case study A documents, such as the training plan for 2007 which shows that there was an average of three training courses for each member of staff, held inside and outside Jordan. The proportion of employees attending these courses was 98% and the total expenditure on them was 1% of total
revenues (JD300 million) in 2007. Also, the researcher examined documentary records, showing some evidence of empowerment and authority granted to staff at different levels, such as signatures and delegations in case study C, but these were limited to certain issues and in some departments only. During the interviews, the researcher saw documents that listed the full reward system applied by Orange, which was considered a very good system from the viewpoint of majority of interviewees. Additionally, there was a sanctions system that was fully applied by the company. Moreover, the researcher was also shown reports of various annual, quarterly, monthly and weekly meetings in case study B. The researcher had access to some internal, external and annual evaluation reports in addition to auditing reports showing the improvements achieved by the company since adopting ISO standards, such as greater professionalism in the writing of reports and the visibility of studies to top managers. He also noticed that a majority of reports, of correspondence between employees and of minutes of top and some middle management meetings were written in English. Further, the researcher also had access to some documents concerning the restructuring of the company, some social events that it sponsored, its system of incentives and sanctions and the amounts spent on improving its infrastructure. All such documents are reviewed in detail in the findings chapter and in each of the case studies.

3.6.3 Direct observation
Sakaran (2003, p.254) recommends observational studies as a means to "provide rich data and insights into the nature of the phenomena observed", while Delbridge and Kirkpatrick (1994) list some benefits of direct observation such as the ability to see how documents and records are actually handled and processed, and how different processes interact. Moreover, Gill and Johnson (2002), mention that the direct observation method can be divided into four types: complete participant, complete observer, observer as participant and participant as observer. To choose among them, the following factors should be considered:

- The purpose of the study
- The appropriateness of the research questions and objectives.
- The time of the study.
- The suitability of the participant in the direct observation: personal flexibility, organisational access and ethical considerations.

Awan & Bhatti (2003), Sharif (2005), Al-Haj (2006) and Basir (2008) are among those who have adopted direct observation as one of the methods of data collection in their
case studies regarding ISO practices. The present researcher used formal direct observation such as visiting customer care departments in the two certified companies and observed the communication among some employees through the company’s intranet system. He also used less formal direct observation methods such as observing employees’ behaviour in dealing with customers. In applying both formal and less formal direct observation, care was taken to respect ethical considerations, to minimise problems and to complete the procedure of organisation of the case study.

For example, the researcher joined the unscheduled mystery shopping team during a visit to a case study B shop. The researcher made a phone call to case study B as a customer to complain about his credit, he found that the procedures followed were professional and that the problem was resolved within 10 minutes. Also, the researcher observed the procedures of decision making in company A to provide customers with new offers, in order to improve the effectiveness of the operation, a team of seven (the deputy executive manager, three middle managers and three shop floor employees) was set up. The deputy executive manager coordinated a team meeting to discuss and approve some proposals. A week later, these proposals were sent to the quality, financial and information technology departments to be discussed and signed. Further, the researcher visited the customer care department in company A and saw the full procedures and noted the time that was taken in solving and managing a customer complaint. In addition, the researcher observed how the connection was made between the company’s shops and a department in its headquarters building in company B. Finally, the researcher also observed that some textbooks, newsletters and codes of practice concerning ISO 9001:2000 standards were kept by company A and B. All such direct observation is reviewed in detail in the findings chapter and in each of the case studies.

3.6.4 Archival records
As noted by Yin (2009), archival records are relevant for many case studies. These include organisational and personal records, maps and charts, lists of names and other relevant items and survey data. Researchers including Al-Haj (2006) and Basir (2008) have used archival methods in their studies of QMS implementation. In the present study, the researcher examined records showing the history of the organisations, their establishment and structure. The researcher also saw the history of developing the quality department and the improvements in the quality journey in the case A, B and C.
Such Archival records are reviewed in detail in the findings chapter and in each of the case studies.

3.7 Structure of the interview protocol

3.7.1 Generating and developing the interview questions
The main function of the questions used in the interviews was to gather enough data to achieve the main aim and objectives of the study. The researcher generated and developed questions concerning the barriers to ISO 9001:2000 implementation (Appendix 10, 11, 12). The literature review was the main source for forming the interviews questions (table 3.7). Moreover, the researcher considered the techniques suggested by Collis and Hussey (2008, p.126) regarding the language used in interview questions, such as: *Beginning the questions with ‘how’, ‘what’ and ‘where’. Reading what has been done in similar research studies. Using a single focus and specifying the research site. Using open-ended questions without reference to the literature or theory, unless otherwise dictated by the research designs.*
<table>
<thead>
<tr>
<th>Barriers in the group</th>
<th>Interview questions</th>
<th>Related Literature review</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Social relations</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Organisational cultural</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Lack of vision and mission</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Lack of awareness of ISO</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9001:2000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Lack of understanding ISO</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9001:2000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Lack of employee</td>
<td></td>
<td></td>
</tr>
<tr>
<td>involvement</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Lack of Motivation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>systems.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Lack of Top management</td>
<td></td>
<td></td>
</tr>
<tr>
<td>commitment.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Lack of resources</td>
<td></td>
<td></td>
</tr>
<tr>
<td>optimisation</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- 90 -
| - Lack of communication | - How is the coordination and communication between different departments?  
| - lack of training programs | - Have you been receiving any training program related to ISO 9000 standard?  
| - Insufficient technology  
- lack of use of information system  
- employees language | - Have the organisation used the appropriate equipments and devices in exchange the information, production, monitoring and measuring?  
| - Customer satisfaction view | - How is the coordination and communication between the organisation and its customers?  
- How the organisation satisfies its customers and measures their satisfaction?  
| - The competition of consultation companies  
- Limited consultation companies | - Who is your calibration body? Why?  
- have the organisation carried out the calibration process and devices adjustment regularly? | Amar and Zain (2002), Curry and Kadasah (2002), Sharif (2005), Awan and Bhatti (2003), Sharp et al. (2003), Fuentes et al. (2000). |
3.7.2 Preparing the interview protocol
The researcher took some steps before conducting the case study interviews. First, he discussed the interview protocol with his supervisor (an expert in qualitative methodology and the subject of quality) and with some PhD students working on related subjects, which helped to enhance the validity of the interview questions and to ensure that the key areas of enquiry were covered. A decision then had to be made as to the management levels at which the interviews should be conducted. It was decided to interview managers and employees at three levels in each of the four companies in order to gain in-depth information and a clear perception of different aspects of quality practices, and to collect different views about different types of barriers. In addition, quality issues are the responsibility of all people within any organisation, including Jordanian mobile companies, which were at an advanced level of technological development. Moreover, the employees were well educated and had good English, so the researcher was convinced that people at all three levels could provide data to enrich the findings. Further, covering these three levels should enhance the validity of the interview data by obtaining responses from different points of view. Thus, the researcher believed that the employees at the three management levels could help him in enriching the outcome of the research, giving him confidence in the accuracy of the interview process and the reliability of the research in general. Details of the three levels are given in Table 3.8.

Table 3.8: The three levels of respondents

<table>
<thead>
<tr>
<th>Hierarchical level</th>
<th>Identification details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Top management</td>
<td>Executive managers, deputy executive managers and directors of business units.</td>
</tr>
<tr>
<td>Middle management</td>
<td>Heads of department and team leaders.</td>
</tr>
<tr>
<td>Shop floor employees</td>
<td>Ordinary employees in different departments.</td>
</tr>
</tbody>
</table>

3.7.3 Translating the interview questions
Because the research was conducted in an Arab country, the researcher translated the interview questions into Arabic. In order to assure the accuracy and precision of the questions, he relied on Arabic/English lecturers who also had some knowledge of the management domain. The reason for translating the interview questions into Arabic was to ensure that the interviewees could share with the researcher the objectives of the work. This method is recommended by Fontana & Frey (1994, p.371), for whom the...
"use of language is very crucial for creating the participatory of meanings in which both interviewer and respondent understand the contextual nature of the interview". Finally, the researcher translated all the interview transcripts back into English. Again, the translations were revised by Arabic/English translation lecturers as well as a number of PhD students of Arabic linguistics, to ensure their correctness.

3.7.4 Ethical approval
According to Saunders et al. (2007), ethics is moral principles with norms or standards of behaviour that guide moral choices about people's behaviour and their relationships with others. The University of Salford ethical policy obligates researchers to apply for ethical approval before conducting field studies. To ensure the complete satisfaction of the interviewees, the interviews were conducted according to the following conditions:

- They were held at convenient times.
- The approval of interviewees was obtained before interviews took place.
- They had the right to halt them at any time.
- They were informed of the purpose of the research before the interviews.
- The confidentiality of their personal data was guaranteed in advance.

3.7.5 Conducting the pilot study
Saunders et al. (2007, p.606) define a pilot study as

"a small-scale study to test a questionnaire, interview checklist or direct observation schedule, to minimise the likelihood of respondents having problems in answering the questions and of data recording problems as well as to allow some assessment of the questions' validity and the reliability of the data that will be collected".

Many scholars mention the importance of a pilot study in conducting research. Thus, Yin (2008, p.79) considers that "the pilot case study helps investigators to refine their data collection plans with respect to both the content of the data and the procedures to be followed", while Oppenheim (2000) states that the function of the pilot study is not only to collect findings but also to test questions and procedures. In the present research, the researcher conducted the pilot study to identify those companies which would co-operate with him and to determine the number of employees to be interviewed in each case. He also used this method to check the interviewees' understanding of the research issue and to test the interview questions. Moreover, the pilot study method provided the researcher with excellent feedback on the suitability of the questions used.
in the real case studies. The pilot study also allowed an assessment of the dependability of the information and enhanced the validity of the questions which were asked in the interviews. When interviewing, the researcher also reworded and reconstructed the questions to make sure that the interviews were appropriate to the respondents.

Six pilot studies were conducted between the 3\textsuperscript{rd} and 15\textsuperscript{th} of March 2008 to develop more valid and reliable instruments. The results were as follows:

- All the targeted companies agreed to participate in the main study.
- They all approved interviews at the three chosen management levels when the researcher explained the influence of the employees' opinions and feedback at the different levels in providing a deeper insight into the topic.
- In order to gain a clear image of the various issues affecting the companies, the researcher revised the interview questions and varied them according to the managerial levels. For instance, there were some technical issues that could only be answered by middle managers or shop floor employees, as they dealt with these issues daily and had built up knowledge about them. Conversely, most of the questions related to company strategy were asked of top and middle managers only. Differences among the four companies (only two of which were ISO certified) also required the researcher to ask some different questions to employees at the same managerial level according to certification status.
- Some questions were added and others were merged.

Having finished the pilot interviews, the researcher devoted ten days to reading the transcripts and making certain that the questions were sufficient to collect the data required. Later, he comprehensively modified the interview questions before conducting the real case studies. Eventually, he consulted the British Council in Jordan to proofread and ratify the final translated versions of the interview questions.

3.7.6 Conducting the full case studies
In order to demonstrate credibility and overcome bias, the researcher carried out the following steps:

- He used a student researcher letter provided by the University as proof of the research he was conducting (appendix 13). This step is supported by Easterby-Smith (2004), Sherif (2005), Al-Haj (2006) and Basir (2008) as helping to develop trust between researcher and interviewees.
• He also explained the purpose of the study to the interviewees. Furthermore, since their cooperation was necessary, the researcher ensured that they felt relaxed and comfortable in giving their answers.

• To make the process easier and more effective, the researcher provided the interviewees, especially top and middle managers, with online question forms. Saunders et al. (2007) suggest that supplying the relevant information and a list of the interview themes to the interviewees beforehand should promote creditability, reliability and validity by enabling them to consider the information being requested and allowing them the opportunity to assemble supporting documentation from their files. It is worth noting that the researcher was aware that this step could lead to bias, so he used triangulation in collecting data.

• As the respondents refused to allow their answers to be tape-recorded (in order not to damage their positions in their companies) and being aware of the importance of the smallest details, the researcher took notes during each interview. This procedure is supported by authors such as Mohamad (2005), Sharif (2005), Elferis (2005), Al-Haj (2006) and Ibrahim (2006). Copies of any documentary evidence which seemed to be relevant were also made. On the same day, each interview was transcribed as a full written record, as recommended by Yin (2009).

Regarding the number of interviews required for qualitative or case study research, Patton (2002) and Oberle (2002) argue that there are no rules governing sample size in qualitative research, which depends on the purpose of the study and the time and resources available. Accordingly, the total number of interviewees in the four case studies was 67: 22 in Zain, 20 in Orange, 15 in Umniah and 10 in Xpress. These numbers were determined according to the following considerations:

• What was agreed between the researcher and the company secretaries as appropriate to achieve the research aim and objectives. The company secretaries determined the dates and times of the interviews, especially regarding top and middle managers. The secretaries sent emails to all such managers, in which they explained the purpose and themes of the interviews. Some agreed to be interviewed, while others refused, claiming that the research topic did not fit their positions and that they did not have enough information to answer the questions.
• The availability of each candidate to attend the interviews and to answer the researcher's questions. Some interviewees answered only some of the questions, while others answered them all.

• The amount of repetition in the answers obtained during the interviews.

The interviews were arranged at times convenient to the interviewees, between March and July 2008. Most were conducted on company premises to allow the researcher access to the appropriate documents, but some took place at employees' homes. The duration of each interview varied between forty minutes and two hours. It should be mentioned that the majority of interviewees were friendly and generous in offering at least a cup of tea or coffee to the researcher during the interview session. It should also be mentioned that some interviewees were very patient in granting the researcher extra time. As a result, the researcher was impressed with the interviewees' open-mindedness, friendliness and display of interest in the research. Subsequently, the procedures gave the researcher confidence in the accuracy of the interview process and increased the reliability and validity of his research.

3.8 Validity and reliability of the data
According to Golafshani (2003, p. 604), "reliability and validity are conceptualized as trustworthiness, rigor and quality in the qualitative paradigm". Cavana et al. (2001) explain that validity is concerned with whether the research measures the right concept, while reliability is concerned with stability and consistency in measurements. In figure 3.1, Klassen (2008) made an illustration which may help in understanding the validity and reliability concepts better:

Figure 3.1: Comparing the Validity and Reliability
He explained that:

"Reliable, not Valid: when measurements are consistent (clustered), but they don't hit the target. This missing the target usually indicates that the concepts require substantial rethinking. Valid, not Reliable: when measures are scattered widely around the target but they are not tightly clustered. This wide spread indicates that the indicators are not focused on the core concepts. Neither Valid, nor Reliable: when measures are scattered but not focused around a core concept. This missing the target without clustering indicates that the entire tool needs to be rethought. Both Valid and Reliable: The measurements are consistent and tightly focused around the core concept. This indicates that the tool is a solid measure of the concept".

3.8.1 Validity
Collis and Hussey (2009) and Hair et al. (2007) mentioned that validity is the extent to which the researcher findings accurately represent what is really happening in the situation. Moreover, Yin (2009) proposed the following as appropriate for a case study design:

- Internal validity, which is about establishing credible causal relationships. Theory must be internally consistent. This requires careful specification of the units of analysis so that the study does not slip from one unit to another and the use of appropriate analysis techniques to ensure that theories and data are consistent (Yin, 2009, Amaratunga, 2002). It's also, concerned with the degree of certainty that the observed effects are actually the result of the experimental treatment or condition (the cause), rather than intervening, extraneous or confounding variables (The University of the West of England, 2007). In this research, general analytical procedure for qualitative data analysis is used in addition to explanation building technique that was used in the analysis of empirical data. And draft transcripts of interviews were validated by respondents to confirm that they accurately represented what they had said. Moreover, the researcher has documented his fieldwork and analysis procedures in a manner than enables others to examine and confirm the validity of their procedures and conclusions.

- External validity, concerns convincingly specifying the domain to which the findings can be generalised. This requires carefully choosing the cases and explaining why each case has been chosen. It's concerned with the degree to
which research findings can be applied to the real world beyond the controlled setting of the study (The University of the West of England, 2007). External validity is maximised in multiple case study rather than single case study designs (Amaratunga et al., 2002; Yin, 2009; Collis and Hussey, 2008). This research uses four case studies to achieve the external validity.

- Construct validity, concerns the issue of whether empirical data in multiple situations leads to the same conclusions and is improved by suing multiple sources of evidence (Yin, 2009; Voss et al., 2002). Moreover, Collis and Hussey (2008) explained the construct validity and mentioned that there are some phenomena which are not directly observed, such as motivation, satisfaction and ambition, which assumed to exist as factors which explain observable phenomena and should be explained by the construct. For that, the researcher in this study used multiple sources of data gathering such as semi-structure at three levels in four case studies, interviews, direct observation, documents and archival records. And the evident gained from the various sources were referenced and managed.

For Ratcliff (1995, p.20), validity can be established in qualitative research by:

- Convergence with other sources of data, using triangulation and comparisons with the literature.
- Extensive quotations, from the field notes, transcripts of interviews, and other notes.
- Other research data, such as archival data, video or audio recordings.

On the other hand, Guba and Lincoln (1989) adopt the term ‘credibility’ instead of internal validity and ‘transferability’ instead of external validity. The only difference between the two sets of terms is the presumed objective reality of positivism and the constructed realities of constructivism. Guba and Lincoln (1989, p. 236) add that

"Credibility refers to the degree to which the results of qualitative research are credible or believable from the perspective of the participants in the research (and the participants are the only ones who can legitimately judge the credibility of the results), while transferability refers to the degree to which the results of qualitative research can be generalised or transferred to other contexts or settings".
3.8.2 Reliability
Pelosi et al. (2001, p.127) define reliability as indicating "the extent to which the measure is without bias (error free) and hence offers consistent measurement across time and across the various items in the instrument". Thus, a measure is reliable if it produces the same results when used repeatedly. Alternatively, for Hammersley (1992, p. 67), reliability "refers to the degree of consistency with which instances are assigned to the same category by different observers or by the same observer on different occasions". The University of the West of England (2007) explains that reliability is "an essential pre-requisite for validity. It is possible to have a reliable measure that is not valid; however, a valid measure must also be reliable". Moreover, Mason (2004, p. 145) claims that "the traditional understanding of reliability focuses on standardising data collection instruments, and this is premised on the assumption that methods of data generation can be conceptualised as tools, and can be standardised, neutral and non-biased". Equally, Kleven (1995, p. 13) argues that "reliability questions whether repeated investigations of the same phenomenon will give the same result". Similarly, reliability refers to the ability to repeat the findings if the same methods are used (Yin, 2009).

Alternatively, some authors, such as Hall & Stevens (1991), Robson (2002) and Koch (2003), consider that 'dependability' is a more appropriate term than 'reliability' for qualitative research. In the same way, Guba and Lincoln (1989, p. 237) state that

"the idea of dependability emphasises the need for the researcher to account for the ever-changing context within which research occurs. The researcher is responsible for describing the changes that occur in the setting and how these changes affected the way the research approached the study. While Conformability, referred to the degree to which the results could be confirmed or corroborated by others."

In practice, Brink (1991, p. 176) suggests three tests of reliability for qualitative work, each to be used as appropriate for specific studies. Stability is established when asking identical questions of an informant at different times produces consistent answers; consistency refers to the integrity of issues within a single interview, so that a respondent's answers on a given topic remain concordant; while equivalence is tested by the use of alternative forms of a question with the same meaning during a single interview, or by concurrent direct observation by two researchers.
However, two tactics are suggested by Yin (2009) to achieve reliability in a case study: the use of a case study protocol or the development of a database. Formal protocol is significant to ensure that procedures are consistent across case studies. These two tactics were employed in the present research to enhance the reliability of the data. A case study protocol included a research design/process, set of semi-structure interviews’ questions, pilot study, study conduction and data analysis techniques were achieved. In addition, the researcher is holding all relevant information to the case studies’ for the purpose of possible further research conductions. Furthermore, Flick (2007) asserts that reliability can be enhanced by interview training for the interviewers and by checking the interview guides or questions in test interviews after the first interview. Consequently, the researcher attended training courses held by the Management and Management Sciences Research Institute at the University of Salford. The protocol and database tactics were also applied to enhance the reliability of the research. Finally, Guba and Lincoln (1989) propose a number of strategies for enhancing conformability:

- The researcher can document the procedures by checking and rechecking the data throughout the study.
- The researcher can take a “devil’s advocate” role with respect to the results, and he can also document this process.
- The researcher can actively search for and describe the negative instances that contradict prior direct observation.

3.9 Data analysis

As Yin (2009) observes, the overall goal in data analysis is to treat the evidence fairly, produce compelling, analytic conclusions and rule out alternative interpretations. Saunders et al. (2007) and Bryman (2004) add that due to its nature there is no fixed rule or standardised approach to the analysis of qualitative data. However, Flick (2007) mentioned that the objective of qualitative data analysis is to identify, examine, compare and interpret patterns and themes. Nevertheless, Riessman (2004), Collis and Hussey (2008), Yin (2009), De Vaus (2001) and Amaratunga (2002) offer some suggested techniques such as:

- Pattern matching: compare an empirically based pattern with the predicted one, or with several alternative predictions. If the case matches the predicted pattern then the case supports the theory, or if not matches then the theory requires modification and need further research. So its theory test.
Time series analysis: is to compare the set of events in the case study with the predicted one. If they match it will support the theory or it requires modification and need further research. It happened when some events always occur before other events.

Program logic analysis: it's a combination of pattern matching and time series analysis covering independent and dependent variables. Useful in doing case study evaluations, the events are staged in repeated cause-effect-cause-effect patterns.

Explanation building: a special type of pattern matching, but the goal is to analyses the case study data by building an explanation about the case, it occurred in narrative form. So it's building theory.

Flick (2007), Hair et al. (2007) Riessman (2004), Collis and Hussey (2008), Strauss and Corbin (1990), and Yin (2009) suggested Ground theory as a coding method for qualitative data analysis. For that the researcher used Ground theory and explanation building techniques in his data analysis and explained that through the following processes:

- The researcher bare in his mind the aim and objectives of the study at all stages.
- Before starting the analysis, the researcher coded the data. The result of coding is to enable the researcher to link data with topics and themes. The coding took three stages, as following:
  - Open coding: the researcher ensured that all material collected from interviews, direct observations or original documents were properly referenced and labelled. This labelled has been pointed to the participants in the interview, date, time, context, and the circumstances of data collection and the possible implications for the research. In addition, the researcher transformed any oral notes into the form of written records and cancelled all the respondents that have nothing to do with the subject of the study. Then these labels are organised into a pattern of concepts and categories through tables that sorted the information to each case study and each management levels of the interviewees in these companies. In this stage, many barriers were identified. Appendix 15 shows an example of the tables.
  - Axial coding: the researcher restructured and rebuilt the barriers found in first stage into various patterns and categories and sub-categories. This allowed the barriers to store, retrieve, reduce, delete, combine, re-arrange and reorganise
barriers in order to put it to the appropriate category and sub-category and analysed systematically and rigorously. The researcher sorted the barriers into two main categories. The first category was about the barriers that have been found in this study. The second category was for issues have been found in this study that related to ISO 9001:2000, such as reasons for and benefits of obtaining certification, how to overcome the barriers and how to maintain ISO standards. Moreover, the researcher commenced to the code of data and merged the tables that have been found in open coding and develop other tables that contain the categories of the barriers in each case study. Then the researcher merged these tables in one big table that contained the categories and sub-categories of the barriers.

- Selective coding: the researcher selecting the core categories with enables themes to be generated which can then be ‘grounded’ systematically by referring back to the original data. And by comparing the list of barriers and other related issues to implementing the ISO certification that have been listed from the literature with the result from the Axial. And then the result became one category that contains the main barriers that have been found in the whole case study companies in Jordan.

- Explanation building techniques support the researcher in comparing the list of barriers found in the literature with those found in this study, in addition to explain some unique barriers that not been mentioned in the literature.

3.10 Chapter summary
To achieve the aim and objectives of this study, the researcher selected and justified the appropriate philosophies, approaches, strategies and data collection methods (Figure 3.2). The subjects of the case studies were all four private mobile phone companies in Jordan, two being ISO 9001:2000 certified, while the other two were not. From each, a number of employees at top, middle and shop floor management levels were interviewed and asked about their opinions regarding barriers to the implementation of the ISO system. This chapter has given a full description of how the fieldwork was conducted including clear information regarding how the data was collected and analysed. Finally, the reliability and validity of the research process were discussed. The next chapter presents the results of the interviews.
Figure 3.2: Research methodology process

Phenomenology

Qualitative Approach

Case Studies
- Interview
- Documents
- Archival
- Direct observation

Research Philosophy

Research Approach

Research Design

Data Collection

Source: Adapted from Saunders et al. (2007)
CHAPTER FOUR
RESEARCH FINDINGS

4.0 Introduction
Interviews were conducted with the targeted respondents, as stated in chapter three. Semi-structured interviews comprised the main source of data for the case studies, while supporting data was obtained from documents, direct observation and archival records. The findings from the triangulation of these four methods were used in order to address the research questions and thus to achieve the aim and objectives set out in chapter one. Appendix 10-12 shows a list of the interview questions used at the different organisational levels in each case study. The barriers that have been listed from the literature review guided the researcher to collect the pertinent data. Thus, the interview questions were designed to collect in-depth information in the following key areas:

I. The reasons for the implementation of the ISO 9001:2000 standard.
II. The benefits of its implementation.
III. Knowledge, awareness and understanding of the requirements of the standards and quality issues.
IV. Employees' authority and empowerment.
V. Key processes and instructions.
VI. Customer satisfaction.
VII. Barriers encountered to the implementation of ISO 9001:2000.
VIII. Continual improvements used to overcome these barriers.
IX. Barriers encountered to the maintenance of ISO 9001:2000 certification.

This chapter presents the research findings. These are discussed in depth and implications considered in the next chapter.

4.1 Zain
Zain is the longest-established private mobile company in Jordan, holds the largest market share and has been ISO 9001:2000 certified longer than any of its competitors (Al-Ghad, 2008). For these reasons, priority was given to examining its processes and procedures on ISO 9001:2000 certification and to understanding the barriers...
encountered in the implementation of the system. Discussions were held with four top managers, six middle managers and twelve employees at the shop floor level. Zain was established in 1995 and started its quality journey in 2003. It has been ISO 9001:2000 certified since April 2004 and has a 39% share of the private mobile market (Al-Ghad, 2008).

4.1.1 Reasons for seeking ISO 9001:2000 certification
The researcher believes that the key to dealing with the process of ISO 9001:2000 implementation in private mobile companies is identifying and understanding issues related to the reasons for certification. In order to establish the background to quality in general and the reasons for implementing ISO 9001:2000 in particular, the interviewees were asked open-ended questions such as "Why did your organisation decide to go for ISO 9000 certification?" and "What is the need for a quality system in Zain?"

Three top managers felt that the reason for seeking certification was continual improvement, because they had started on the quality journey in 2003, with the aim of achieving TQM. One top manager added that "ISO 9001:2000 certification gave a good image of Zain to customers, which means that the company is on the right track".

One middle manager mentioned that in 2003 the CEO gave the quality department full authority to build Zain's quality system until excellence will be reached in the organisation and that the first step was ISO 9001:2000 certification. Another middle manager added that there were "market-related reasons which mean that because of our image and because we are number one in the market we should do something to continue this image among customers". Three middle managers agreed that certification was desired by the top management. One said: "The main reason for getting the ISO 9001:2000 was to improve the internal and external work in the departments which led to customer satisfaction, and these are the two main requirements in ISO standards".

All employees at the shop floor level mentioned that obtaining ISO certification was a top management goal. In addition, three of them described it as "a market tool", while four of them thought that it was "a way to get better image in the market". Most of them also agreed that ISO certification would improve performance and six shop floor employees mentioned that Zain wanted ISO 9001:2000 "for competitive reasons".
The researcher was able to examine company documents, explaining the reasons for implementing ISO 9001:2000, listing the expected benefits and urging the staff to follow the relevant instructions and standards.

4.1.2 The benefits of certification

Benefits were explored through open-ended questions such as “Do you feel that the organisation has received the intended benefits? Why?” and “How has ISO 9001:2000 certification affected the company’s aims and objectives?”

Among the benefits outlined by two top managers were the standardisation of internal procedures, which enhanced and developed the work in general and added value to the company. Supporting this, one top manager stated that “one of the benefits is the improvement of the work in the company”, while another said: “There have been some direct benefits from ISO 9001:2000, such as transparency in human resources management, professionalism, cost effectiveness and staff recruitment”.

Two middle managers suggested that one of the benefits of certification was that the external audit became easier for employees, because they were no longer anxious about the process, especially after the seventh round of external audit in 4 years. Another middle manager supported this view by noting that “some departments asked the quality department to internally audit their departments from time to time, so that the departments in the company know that the quality standards have led to improvements in their work”. A further benefit identified by another middle manager was “to go further in other quality certification. Zain was certified in ISO 14001 in February 2008 and ISO 27001 in April 2008, and in the near future we shall try to get the European quality certification [EFQM] and King Abdullah II, which is the highest quality certification in Jordan”. In addition, a middle manager stated that “there was an intangible effect because the company worked with quality procedures before the ISO 9001:2000 certification, but since certification we have seen direct improvements. This has pushed the company to get other ISO certifications such as 14001 and 27001”.

Another colleague mentioned a direct benefit, which was that “in the past we took five days to fix a mast but after ISO 9001:2000 certification it took only three days”. Finally, another middle manager said that “there are some benefits like improvements in documentation, staff trustworthiness and customer confidence”.

- 107 -
From the point of view of six employees at the shop floor level, there were no benefits except the improvement of internal procedures. One stated that "there is no benefit from the ISO 9001:2000 certification, but more work procedures and processes. This takes more time and effort and costs more money. In fact, it usually worked in quality procedures in general before getting ISO 9001:2000 certification". Another employee said that "the main benefits from getting ISO 9001:2000 are better communications between staff and work processes".

The researcher examined some internal and external auditing reports for the last four years, written before, during and after ISO certification, which listed the improvements achieved by the company through and after the implementation of ISO standards. He also observed directly an example of communication between members of staff through the company’s internal computer network and a copy of that communication is documented in files.

4.1.3 Knowledge, awareness and understanding of requirements and quality issues
Three questions were asked concerning knowledge, awareness and understanding of ISO certification: "Have you received any training related to ISO 9000 standards?" "What is your knowledge of ISO 9000 standards?" and "Was the purpose of obtaining ISO 9001:2000 certification understood among employees before, during and after certification?"

All respondents agreed that they had attended workshops and training courses on quality programmes in general and ISO 9000 in particular. These were conducted by a consultant company which helped in implementing ISO certification and by staff of the quality department at Zain. The workshops and training courses were on quality in general, on the means and benefits of certification, on reasons for becoming certified and on how employees would implement ISO 9001:2000. Additionally, one top manager and the entire quality department staff attended training programmes on statistical process control, continuous improvement and internal auditing regarding the quality systems and ISO 9001:2000 standards. Finally, the quality manager attended a foreign training programme on ISO 9001:2000 implementation held in several branches of Zain outside Jordan.
The responses indicated that in general top managers had a good level of knowledge of ISO 9001:2000 requirements and implementation, but they stated that refresher courses covering emerging issues on the new standards were limited. One top manager said that it needed to be complied with in order for Zain to obtain ISO 9001:2000 certification, and that it was used to alter the way people did their jobs. Another stated that due to time constraints he had attended only one course regarding the ISO implementation and that was last year.

Three middle managers appeared to have a good knowledge of ISO 9001:2000 requirements and implementation. For example, one said that “the most important requirements of ISO 9001:2000 are the continual improvement and customer satisfaction”. Another middle manager, who was expert in other standards, such as ISO 14001 certification, said: “ISO 9001:2000 requirements are a guideline to systematic work and also guarantee the quality of the company’s core business”. By contrast, other middle managers had little knowledge of the quality issues affecting ISO 9001:2000. One of these offered the opinion that “continuous workshops and seminars for the staff will enhance the knowledge, the understanding and the importance of quality in the company”.

The majority of employees at the shop floor level had little knowledge or understanding of the requirements and implementation of ISO 9001:2000. For example, four of them stated that “my knowledge of ISO 9001:2000 is just the information that has been given to me in the seminars or workshops”. Another three said that he had not attended any training courses for quite some time. While another six mentioned that the ISO certification is for quality issues.

The researcher concludes from his observations that the staff of Zain felt that they needed more awareness of quality in general and the requirements of ISO 9001:2000 in particular, especially the receptionists. According to company records, it nevertheless appears that employees had been appropriately trained. The training plan for 2007, for example, shows that there was an average of three training courses for each member of staff, held inside and outside Jordan. The proportion of employees attending these courses was 98% and the total expenditure on them was 1% of total revenues (JD300 million) in 2007. The researcher also observed that some textbooks, newsletters and codes of practice concerning ISO 9001:2000 standards were kept by the company.
4.1.4 Authority and empowerment of employees

Questions were asked about authority and empowerment, such as "Does the organisation define the responsibilities, authority, involvement and empowerment of the employees? Why?", "How does the management involve and empower the employees?", "Are the employees empowered to take direct actions without further approval whenever they encounter a problem? How?" and "Do managers pay attention to the suggestions of the staff and employees?".

The top managers stated that sufficient authority and empowerment were granted for Zain to be a quality-certified company. One stated that "any employee can meet any member of top management directly to discuss with him any idea or suggestion if he feels it's a good idea. And then if the idea is approved, he has full support from top management to do it". Another top manager admitted that "enough authority has been given to the employees, but I usually have a summary note every day from the managers I'm in charge of their daily work, their decisions, their needs and if they want permission to do their work in the best ways".

Two middle managers agreed that some authority and empowerment was granted from top management regarding work issues. They stated that top management provided the human and financial resources, high quality machines and the information technology where needed. One middle manager said: "Naturally, there is a lot of cross function between the departments, which means meetings between employees from different management levels to solve problems or to take the opportunity with full authority and empowerment". Another middle manager stated that "the top management gave us what we asked to be a quality management certified company, and that included authority and empowerment to reach our goals. But there were and still are continual pressures to be certified and to maintain that certification". Supporting this view, a third middle manager added: "We have full authority to enter all the information systems in all departments in the company to follow the quality work and procedures to maintain the ISO 9001:2000 certification and other quality systems". Finally, another middle manager observed that "there is some empowerment and authority in some departments, like information technology, quality and the customer care, but this not the case in other departments".

- 110 -
Four shop floor employees agreed that there were meetings with the departments or with managers to inform them about how they could improve their work, but in the end their suggestions were not considered. One employee stated that “we have some power and authority up to 50 dinars to deal with mistakes in bills and statements”, while a second said: “My manager doesn’t give me any empowerment or authority, even if he is outside the company”. Moreover, another employee replied nervously and mentioned that “we have a lot of ideas to improve the company’s work but no body cares, although they took our ideas but no body discussed with us or mentioned it in the meeting or in any were else in the company”. Five of employees noted that while there was some empowerment and some delegation of authority to some employees in some departments, this did not mean that there was a general empowerment or delegation of authority to all shop floor employees.

The researcher examined documentary records, showing some evidence of empowerment and authority granted to staff at different levels, such as signatures and delegations, but these were limited to certain issues and in some departments only. In particular, making any statement or information about the company required the written permission of top management; thus, the researcher found that the process of arranging and conducting interviews in this company took a long time.

4.1.5 Customer satisfaction

Interview questions on customer satisfaction were: “Who are your customers? Why?”, “How does the company provide customer satisfaction?”, “Does the company measure customer satisfaction? How? Why?” and “How you determine the needs and expectations of your customers to provide satisfaction?”. These questions explore why it is important to have customer satisfaction, how it can be measured, and the link between the customer satisfaction and ISO 9001:2000 certification.

The top managers mentioned that company employees were viewed as internal customers and that people, government, industries and private sector employees were viewed as external customers and that consultancies and stakeholders were viewed as both internal and external customers, because they had requirements and expectations that needed to be fulfilled while at the same time requiring good service, in common with normal customers.
Three top managers stated that client companies were considered to be part of the company's capital, since without them Zain could not make profits and continue its work. One of them mentioned that the company "erected excellent antenna towers, which provided one of the best communication networks in Jordan". His colleague stated that his company subdivided the Jordanian mobile market, so that they could present suitable special offers to business people, students, private companies and government institutions. He added that the company "Linked Zain customers in Jordan with those in other Arab countries where it had branches, such as Saudi Arabia, Iraq, Bahrain and Sudan". The third top manager said: "I think we manage to achieve customer confidence and satisfaction, because Zain started work in 1995 and until 2000 it was alone in the Jordanian mobile market, then three mobile companies entered the market, but it has retained the largest mobile market share and makes the biggest profit".

Three middle managers mentioned that to maintain a good level of customer satisfaction, several meetings took place during the year with all levels of customers, such as working dinners with business people and official meetings with senior people in private and public companies. Several questionnaires were also conducted among students and ordinary customers. One middle manager stated that "Zain sponsored many events in schools, universities, sports events, meals in the Holy month, songs and festivals, in order to learn more about customers' needs". Another middle manager said: "To achieve customer satisfaction you should complete the building of the whole system in the organisation, such as appropriate infrastructure through a good management information system, good technology devices and appropriate staff". A third middle manager added that "we have hotline services to handle customers' complaints and video cameras have been installed in the company's shops, so that recordings can be linked with the quality department's devices to follow up the situations".

Five shop floor employees stated that customer satisfaction was the main task of the company. However, another five mentioned that there was no end to customer satisfaction and that their managers frequently asked them to implement something related to customer satisfaction. One employee said: "I have been punished several times because some customers complained. Sometimes these complaints are not correct". Another stated that "customer satisfaction is the most difficult part of our
work, because you will never get complete customer satisfaction, and the managers ask you to make more and more effort to implement the customers' suggestions to achieve customer satisfaction”.

The researcher visited the customer care department, saw the full procedures and noted the time that was taken in solving and managing a customer complaint. In addition, he observed how the connection was made between the company’s shops and a department in its headquarters building.

4.1.6 Key processes and instructions

The top managers reported that they took the decision to embark on a quality journey and to start with ISO 9001:2000 certification as the first step. They then followed up this decision through the quality department by several means, such as regular reports and meeting with all departments in the company, providing full empowerment and support to obtain ISO 9001:2000 certification. One top manager said: “We spent more than six months discussing how we could work on quality. The discussions took several forms and one of these was to listen to our employees at different levels”.

One middle manager stated that Zain had started the quality journey in 2000 as a “fire-fighting” exercise, which means that corrective action was taken after problems arose. Then, in 2003, the CEO gave the quality department full authorisation to build the company’s quality system, which was a serious challenge. “We started our work by collecting all the organisational documents: then we reviewed these documents and put them in one system. After that we conducted reviews of different quality systems and carried out two internal audits. And finally we set up cross-functional procedures, work procedures and instructions to get our own quality system. This hard work was done in 12 months. Then in 2004 the CEO asked to get the ISO 9001:2000 certification as one of the steps in the quality journey, and that is what happened in April 2004.” Another middle manager stated that the work procedures focused on training employees in how
to implement ISO 9001:2000 certification through internal and external workshops and meetings between the quality department and other departments in the company. Others mentioned that they had general quality steps to follow in their work. These were identified after seminars, workshops and meetings between individual departments and the quality department concerning the company’s work on quality standards. A fourth middle manager said: “It was difficult in the beginning to match our work with the quality steps, but after that we felt that these quality standards helped us to do our work with minimum effort but with maximum quality”. Another stated that “the ISO quality standards are additional work in our department because we usually do our work in quality procedures”. Finally, a middle manager described corrective action to “find the cause of non-conformance cases, then prepare a plan for corrective action. After that, proper corrective action should be taken. And finally, when the case is solved, a report must be submitted to top managers”.

Six shop floor employees said that they had not expected the benefits of using quality standard procedures in their work. One of them explained that and said “We usually discussed our work in departmental meetings to decide the best procedures in doing our work before the quality standards came in; so we felt that the quality procedures were for quality certification more than for quality of work”. Another employee said that “we should be involved in quality issues because it’s mentioned in the annual evaluation forms, which encourage employees to adopt the quality issues”.

The researcher examined documents that gave information about how much effort was required to obtaining ISO 9001:2000 certification. These documents also covered the foundation of Zain’s own quality system and how it matched the work of each department and the ISO requirements.

4.1.7 Barriers encountered to the implementation of ISO 9001:2000 standards

Questions about barriers to the implementation of ISO 9001:2000 standards included: “What were the barriers that your organisation faced during the certification process?” and “Could you divide these barriers into three parts: before implementing ISO, in the process of implementing ISO and after certification?”. Table 4.1 compares the views of the three management levels on such barriers.
Two top managers mentioned that once Zain had decided to be a quality management certified company, “we provided all facilities needed to reach this aim, the resources and the systems which we thought were most important things to implement any quality certification in general and ISO 9001:2000 specifically”. Another reported a barrier “that happened during the ISO implementation, which was how we could reach a balance between the achievements of the company goals in speedy time and in competitive environments on one hand and the requirements of the ISO standards on the other hand”. Supporting this view, another top manager said that the company also faced “a big problem during implementation, which was how we could combine the long-term objectives of the company, which sometimes affect the requirements of ISO 9001:2000 standards, with customer satisfaction”.

All middle managers agreed that top management commitment was one of the most important barriers to acquiring ISO certification. Top managers provided the human and financial resources, the appropriate machines and the information technology systems needed. One middle manager identified the consultation companies which helped in implementing ISO 9001:2000 as another barrier, “because nowadays there are a lot of these companies. This competition led to low quality ISO 9001:2000, which means you should choose a good one that could help you to achieve your aim”. Another middle manager gave the opinion that the human, financial and technical resources and the management information system were important barriers facing the company before the ISO certification journey began, while one of his colleagues added that another barrier was “the employees’ awareness of reasons, benefits and requirements of ISO 9001:2000 standards. This means that the workshops and the training courses should be planned well to cover these issues properly”. A fourth middle manager added that “another barrier was the cooperation of employees at different management levels without any problems during implementation, because the employees themselves would have to follow all procedures in implementing ISO certification. This leads us to the importance of the authorisation and empowerment of employees, which is another important barrier to implementation”. Yet another middle manager believed that “the company should continue the internal and the external auditing to maintain ISO certification, to make sure that the departments work according to the certification procedures. Also, the company should keep working on two main requirements, continual improvement and customer satisfaction, through statistical approaches, because these are the main requirements of ISO 9001:2000, and because of them we can maintain certification".
One of his colleagues said “top management support and infrastructure facilities were the most serious barriers to implementation, because these things supported our work in quality procedures”. Another mentioned two barriers which are: “workshops and training courses regarding ISO requirements and procedures was another barrier. So was the balance between doing the job in the right way and according to ISO requirements”. And “employee culture and how we can change it to fit with the requirements of ISO standards”.

Four shop floor employees stated that one of the main barriers that faced them was the additional work that they had to do to fulfil the ISO requirements. One said: “Naturally our work is very hard because of the competitive market and we also have to work according to ISO requirements, which means extra work and takes extra time”. Another three employees were also concerned about the fairness of the new system regardless of the replacement of staff, especially since there was now an internal audit every three months and an external one after another three months, plus a formal evaluation, conducted every six months, assessing their work in terms of quality requirements. All these factors placed continual pressure on them. Thus, one employee complained: “Sometimes we had good suggestions to improve our work but the company did not take up our suggestions or even discuss them”. Another barrier identified by an employee was that “we don’t have enough empowerment or authority to do certain work without authorisation from our manager”. Finally, three employees mentioned that internal communication, especially between some managers and their employees on the shop floor, was a barrier to implementation. One employee said, in support of this view: “In the meeting, shop floor employees didn’t really express their feelings, the meetings focused on solving non-conformance cases and didn’t really investigate the causes. And there was sometimes no free speech”.

The researcher saw records that reported on the internal and external audits from 2003 until 2008 and the yearly improvements in the company’s procedures. These documents indicate that the support of top management facilitated the establishment of a quality system in general and obtaining ISO 9001:2000 certification in particular.
Table 4.1: Interviewees' views of barriers encountered to the implementation of ISO 9001:2000

<table>
<thead>
<tr>
<th>Top management level</th>
<th>Middle management level</th>
<th>Shop floor level</th>
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<tr>
<td>Lack of top management commitment</td>
<td>Lack of top management commitment</td>
<td>Lack of top management commitment</td>
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<tr>
<td>Lack of human resources</td>
<td>Lack of human resources</td>
<td>Limited internal and external auditing</td>
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<tr>
<td>Lack of financial resources</td>
<td>Lack of financial resources</td>
<td>Limited involvement of employees</td>
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<tr>
<td>Lack of equivalence between the company's work and ISO 9001:2000 requirements</td>
<td>The large number of consultation companies which led to low quality in implementing ISO certification</td>
<td>Limited employee authority and empowerment</td>
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<td>Poor correspondence of customer satisfaction with ISO standard requirements.</td>
<td>Lack of full management information system</td>
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<td></td>
<td>Lack of awareness of ISO 9001:2000 benefits, reasons and requirements.</td>
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<td>Weakness of the follow-up to the recommendations contained in the internal and external auditing reports</td>
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<td></td>
<td>Limited involvement of employees</td>
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<td>Limited employee authority and empowerment</td>
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<td></td>
<td>An employee culture which did not comply with the requirements of the ISO 9001:2000 certification</td>
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4.1.8 Overcoming barriers to implementation

The next sets of questions were: "How did the organisation overcome the barriers to implementation of ISO 9001:2000?", "What were the changes required in your organisation to satisfy the certification system? Why?" and "How does the organisation identify and trace its problems?" During the interviews, all these questions were asked in order to provide a clear idea of continual improvements that may help in overcoming the barriers to certification.

Two top managers focused on the ways employees worked. Accordingly, they created a reward system so that the company could show its gratitude and appreciation of the contributions and efforts of staff members. A top manager gave an example of the
reward system, including "financial bonuses, letters of thanks, covering Haj and Omra [obligatory religious pilgrimages] expenses, holidays to some Arab countries, the expenses of employees' children in tuition fees and health insurance". Another added: "We had to hold meetings among ourselves and between middle management and quality manager. The aim was to study proposals that would assist in addressing the barriers to ISO certification. After that we put a plan to work, giving middle managers full empowerment and authority to implement our plan. Then we followed that in a monthly meeting to overcome any problems we encountered immediately". A third top manager supported this point of view, saying that "some solutions were by holding intensive meetings with and between employees in all departments, to explain the reasons for obtaining such a certificate and its importance. This work helped in cooperating to get the best performance and delivery at the required speed ... to ensure that proper action was taken to achieve our goals".

Two middle managers mentioned that departments they were in charge of put emphasis on training courses, intensive meetings and cross-functional teamwork to overcome the barriers to ISO implementation. One middle manager commented that "I was worried about how we could make a balance between ISO requirements and the achievement of my departmental plan, regarding the time and the quantity planned with quality required. But after training employees we managed to overcome some barriers to implementation". Similarly, a second middle manager said "we worked closely to the quality departments in the first six months to see the best way to implement ISO 9001:2000 requirements. Then I divided the quality responsibilities among the staff of my department, and in this way, the department succeeded in overcoming some barriers". Another asserted that they had an integrated plan for quality work in the company before, during and after obtaining ISO certification. He explained by saying: "It started in meetings with all staff at all levels to identify the causes and the benefits of obtaining ISO certification. Then we held workshops and training courses on the requirements and the procedures to implement ISO certification. Then we divided the work procedures between the employees in the quality department to facilitate follow-up quality and work in all departments of the company. After that we put in scheduled and unscheduled time to inspecting undeclared work to reach a common mechanism to achieve the goal of quality. An effective modern information system had also been linked with all departments, which led to effective internal communications to ensure that all staff could get information regarding quality issues. And finally, there were
several means of effective internal communication such as meetings, letters and memos, intranet circulars and emails". Finally, another middle manager identified internal auditing as a very important factor having several benefits in overcoming barriers to implementation, such as “to assure that work activities were in accordance with the work procedure, to prepare for the surveillance audit, and to enhance staff awareness and develop staff commitment to ISO 9001:2000”.

Six employees at shop floor level admitted that they sometimes did not agree with their managers, although they continued to obey their instructions. They added that the penalties that employees might face if they did not follow such orders were either warning letters or immediate dismissal. Another three employee mentioned that human resources is one of the main barriers affecting the implementation of ISO 9001:2000, but we overcome this factor through institutional work, because ISO requirements depend on documenting all procedures and steps, which means that the department will not depend on a certain group of employees to ensure that the company would not suffer if they left, in addition to making the work integrated.

During the interviews, the researcher saw documents that listed the full reward system applied by the company, which was considered a very good system from the viewpoint of majority of interviewees. Additionally, there was a sanctions system that was fully applied by the company. The researcher was also shown reports of various annual, quarterly, monthly and weekly meetings. He further observed that when the company decided to provide customers with new offers, in order to improve the effectiveness of the operation, a team of seven (the deputy executive manager, three middle managers and three shop floor employees) was set up. The deputy executive manager coordinated a team meeting to discuss and approve some proposals. A week later, these proposals were sent to the quality, financial and information technology departments to be discussed and signed.

4.1.9 Barriers to maintaining ISO 9001:2000 certification
To explore ideas on maintaining ISO standards in the company, the researcher asked the following questions: “How is ISO 9001:2000 maintained? Why?”, “What are the barriers that the company faced in maintaining the system?" and “If you had to go through ISO 9001:2000 implementation again, what would you do differently?”
Two top managers agreed that lack of top management support was the main barrier to maintaining ISO certification. One said: "To avoid this, we gave a decision to the quality manager to maintain the quality certifications that we already had. We followed this decision by monthly reports from the quality department". Another top manager said: "The main barrier affecting the maintenance of ISO is keeping the procedures in line with requirements. This leads to continual improvements which lead to further steps in the quality journey and the result is that customers are satisfied". A third commented that important factors in maintaining certification were "organising many workshops to review the internal auditing reports which contain some important points such as the documentation system, job specifications, internal communications, tackling non-conformance cases positively, and the decision making system in the organisation".

Another barrier identified by another top manager was "ignoring the importance of regular meetings with employees at different levels. The purpose of these meetings was to check the overall status of ISO 9001:2000 standards, monitor the achievement of the quality objectives and give feedback to managers regarding certification".

With reference to the audit of ISO requirements, to the work process evaluations and to satisfying internal and external customers, along with the ISO consultancy, two mid-level managers cancelled a number of procedures which they believed were unnecessary in maintaining the standards and did not constitute a practical approach to the work. Accordingly, a middle manager asserted: "After 4 years of certification, employees are used to ISO 9001:2000, but we still face some problems of the employees' culture, which is an important barrier to maintaining the certificate". Another said: "Calibration companies are one of the main barriers to maintaining ISO 9001:2000 certification because there are so many of them, which leads to strong competition among them and that leads to a poor calibration process. That's why an international company called DNV has been adopted as ISO consultant to all branches of Zain around the world including the Jordan branch". However, a third middle manager stated that preventive action was often used to maintain certification. He explained that "all employees at different management levels were always reminded that they had to do their job in accordance with the respective work procedures". Then an effort was made to maintain staff awareness of the quality certification by implementing a self-assessment audit, and finally the non-conformance cases and preventive actions were managed together. The non-conformance cases themselves became a reminder to the staff".
All employees at shop floor level stated that customer satisfaction was their most important objective and the most significant barrier to maintaining ISO certification, because without customer satisfaction, the company would not sell the product. In some cases they might not follow quality procedures if they felt that to do so would not lead to customer satisfaction. Supporting to view, one employee said that "whatever you do you will never satisfy the customers, because they need more and more every day."

4.2 Orange
Orange Jordan is also ISO 9001:2000 certified and is the second oldest private mobile company, with the second largest market share in Jordan (34%) (Al-Ghad, 2008). It has three separate telecommunications arms, specialising in fixed lines, mobiles and the Internet. The mobile company launched its activities in 2000 under the name Mobilecom and started the quality journey in 2003. The result was the acquisition of ISO certification in February 2007. Again, interviews were conducted with managers at three levels to explore the barriers to the implementation of the ISO 9001:2000 system.

4.2.1 Reasons for seeking ISO 9001:2000 certification
The interviewees were asked the questions set out in section 4.1.1.

One top manager evoked the issue of customer satisfaction as the main objective of certification. Another said: "We believe that nowadays the competition between mobile companies is on cost, because the majority of customers consider price before they take out a mobile line contract. But very soon we believe that the customer will consider quality as well as cost. Besides this, the ISO 9001:2000 gave a good image to Orange customers regarding quality, and that was another reason to go further on the quality journey". A third top manager pointed out that "before 2000, ISO standards were not clearly defined. It was just a matter of documents, but after 2000, ISO 9001:2000 became a reliable certification because it considers customer satisfaction and continual improvement, and this motivated our company's certification process".

Four middle managers agreed that the need for certification stemmed from the top management’s desire. Two of them explained that the main reason for seeking certification was to improve the internal work in the departments, which led to customer satisfaction. One middle manager pointed to "the competition reasons that made the
CEO take the decision to obtain ISO 9001:2000”. A second middle manager mentioned that “the procedures of the certification enhanced and organised the work, so that every employee knows his responsibility. Also, it increased and encouraged teamwork in the same department and in cross-functions with other departments as well”. A third stated that “we started the quality procedures from 2003. It was the CEO who gave the quality manager the authority to start the journey of quality to improve the work. When Orange bought the company, the new CEO gave us the empowerment to keep going on the quality journey”. Finally, another middle manager added: “I believe that continual improvements represent another reason for seeking certification, especially when Orange bought the company. The CEO adopted a strategy that guarantees continual improvement in order to reach what we called Total Quality Management”.

All employees at the shop floor level also hinted at the top management’s desire for quality as the motivation for certification. For example, one described it as “a market tool, because it’s a way to gain the company a better image”. Most of them agreed that it enhanced the performance of departments. Ten of them replied that they did not know the exact reasons for certification. Finally, one employee observed that “we have been informed that it’s a policy of Orange to have standards of quality in all of its branches around the world and ISO 9001:2000 is one of these standards”.

The researcher consulted some documents stating the reasons for implementation, the expected benefits and requests for all employees at different management levels to facilitate conformity to the certification requirements and standards. He also saw three documents which highlighted the empowerment and authority granted to middle managers to obtain ISO 9001:2000 certification.

4.2.2 The benefits of ISO 9001:2000 certification
The interviewees were asked questions listed in section 4.1.2.

One top manager outlined some benefits of implementing ISO 9001:2000 as “the improvement of work in the company through reducing centralised decision-making and increasing the involvement and empowerment of employees. Also ISO 9001:2000 standardisations helped in improving efficient management reporting”. A second top manager referred to the benefits gained through the “discovery of errors in light of the
ISO 9001:2000 documentation system, which helped managers in identifying if things were going wrong and making the corrections needed". A third emphasised that "the return on investment is apparent in the company's market share, which increased from 26% in 2006 to 34% in 2007".

Two middle managers agreed that the benefits of being ISO 9001:2000 certified included enhanced communication among employees in the same department and with those in other departments, along with increased transparency in inter-departmental processes. One middle manager mentioned "increased cooperation and teamwork between employees, which led to customer satisfaction and loyalty". He added that it would be valuable to go further in other quality certification: "Orange Jordan has been certified in ISO 9001:2000 for its other businesses units, fixed line and Internet, using the six sigma approach to doing the majority of tasks, and in the near future we shall try to get the King Abdullah II award, which is the highest quality certification in Jordan, towards the goal of Total Quality Management". A second said: "The work in my department has been improved since the company started the procedures to get ISO 9001:2000 certification, through training, seminars and workshops. The work efficiency has been guaranteed through the documentation system, job rotation and professional reports". A third middle manager, however, stated that "I did not notice any extra efficiency in my department after implementing ISO certification. In fact, it made extra work through some additional routine work such as doing the documentation in different ways and needing more signatures on some paperwork, which I think sometimes, hampers the work". A fourth pointed to the overall organisational gains from reducing specialisation: "In the past, a lot of work was restricted to a few employees and when they left, the company suffered for a long time. But since the application of ISO all work processes have to be documented so that anyone can do them, besides the training courses that employee are supposed to have during the year". Finally, a fifth colleague added that "certification helped in improving the work by reducing the centralised decision-making, empowering and involving the employees, improving efficient management reporting and facilitating internal auditing".

Four employees at the shop floor level shared the view that thanks to ISO certification there was an improvement in the internal procedures and regularity in the staff meetings in their departments. Another six, however, stressed that there were more work procedures and processes, which took more time and effort and cost more money than
before launching the certification process. Another complaint was that "the company focused on satisfying external customers, during and after ISO certification, but at the same time it did not recognise employees' needs".

The researcher had access to some internal, external and annual evaluation reports in addition to auditing reports showing the improvements achieved by the company since adopting ISO standards, such as greater professionalism in the writing of reports and the visibility of studies to top managers. He also noticed that a majority of reports, of correspondence between employees and of minutes of top and some middle management meetings were written in English.

4.2.3 Knowledge, awareness & understanding of standards & quality requirements

The interviewees were asked the questions given in section 4.1.3.

All top and middle managers and shop floor staff attended workshops and training courses on quality programmes in general and ISO standards in particular. These workshops and training courses, which were conducted by the consultancy that helped Orange to obtain ISO certification and by quality department staff, covered the benefits of implementing ISO 9001:2000, the reasons for becoming certified and how employees could implement the certification requirements. Additionally, all staff from the quality department attended training programmes on statistical process control, continuous improvement and internal auditing.

The responses indicated that top managers had a good knowledge of ISO 9001:2000 requirements and implementation. For example, one said that "ISO 9001:2000 components are the requirements of the International Standards Organisation based in Geneva and can be applied in any kind of organisation".

Some middle managers had moderate knowledge of ISO 9001:2000 standards, requirements and implementation. For example, one stated that "initial stages of ISO implementation required a huge amount of work but it was easier to implement if we followed the certification requirements and procedures". A second pointed out that "the documentation system and the work procedures in the certification were very useful as work guidelines, especially for new staff". A third, who had little knowledge
of ISO 9001:2000 issues, expressed the view that "the requirements on routine work and procedures to implement ISO 9001:2000 are making extra work and I do not think that we should follow them".

The majority of employees at the shop floor level had little knowledge of ISO 9001:2000 certification. For example, one described it simply as "a documented certification", another as "for customer satisfaction" and a third as "a statistical method which deals with quality issues", while four others mentioned that it serves quality purposes and aims at maintaining continual improvement.

The researcher examined some documents containing instructions sent by top and middle managers including the quality manager to employees at different levels to facilitate and follow the procedures required to obtain ISO 9001:2000 certification. He also had access to some textbooks, newsletters and codes of practice of ISO 9001:2000 standards held by the company. One document shows the training plan for 2007, was also examined. There were 126 training courses: 106 in quality and 20 in management, and the proportion of employees attending was 97%. However, on a number of visits to the Orange offices, the researcher observed that the employees in charge of reception had poor customer care skills and did not know how to deal with customers, even if they had attended seminars and workshops on quality relating to ISO certification.

4.2.4 Authority and empowerment of employees
The interviewees were asked the questions set out in section 4.1.4.

Top managers confirmed that employees at different levels had sufficient authority and empowerment to take the decisions needed. One stated that "teamwork, group work and the project team are some examples of employee empowerment, because they have the authority to examine any case and take decisions. Another mentioned that "middle managers have full authority to organise their departments, including job descriptions, responsibilities and flexibility in working time for their staff to achieve their goals".

The middle managers agreed that there was adequate authority and empowerment. One affirmed that "the top management provides the human and financial resources, the equipment, the information technology and the information systems needed". A second
declared that “we usually have regular meeting with top management to discuss ideas and suggestions, as well as drafting a strategic plan”. A third added that “the decentralisation process and delegation of authority have made the employees more responsible. There are a lot of project teams and cross functions between the departments, which means many meetings between employees from different management levels, who are given adequate authority and empowerment”. Supporting this view, a fourth middle manager said: “We have the authority to deal with some issues. But at the same time we are not allowed to talk to the press or to any researcher until we have permission from our boss”. A fifth added: “We don’t have authority in financial issues; we usually need approval from our boss”.

The shop floor employees mentioned that although they had scheduled meetings with their managers at different levels, they did not feel that they had enough empowerment or authority. One complained, for example, that “our managers do not consider our suggestions, so the meetings are just routine”. Another added: “We feel that the scheduled meetings are just held so managers can tick a box”. A third observed: “We are not allowed to communicate directly with any person who needs information without permission from our boss”. Two employees in the customer care department, by contrast, reported having the empowerment and authority to satisfy the customers. One of them explained: “Our managers keep in contact with us during working hours and sometimes after, take into consideration our suggestions and give us full support and authority to deal with the customers”.

The researcher saw some documents containing evidence regarding the empowerment and authority granted to middle managers and team leaders. This indicates that each middle manager and team leader should have a deputy in his department or group to conduct his work in his absence. But the research revealed that written permission was required in some cases, such as new customer offers, financial matters and dealing with information about the company. The interviews conducted during this study provide a good example: the researcher had to wait more than two weeks to obtain permission and make the necessary arrangements.

4.2.5 Customer satisfaction
On the subject of customer satisfaction, interviewees were asked the same questions as in section 4.1.5.
One top manager stated that "our main aim is to attract customers to our company by satisfying them. We have good points that have already achieved this aim, such as the brand name of our company, Orange; this step aimed at providing the Jordanian market with a standardised world-class service. Since then, Orange has made available the best mobile services for its customer by offering a range of services at affordable prices. The result was an increase in the company's market share from 28% in 2006 to 34% in 2007". Another top manager said: "We have three telecoms companies integrated under one umbrella. One is for fixed lines and we are the only fixed line Phone Company in Jordan. Another is for Internet services and the third is for mobile phones. So we are the only integrated operator in Jordan and this gives an advantage to the customer, who can buy three products in one place and save time and money as well". A third noted that "in order to satisfy the external customers, we usually make offers that keep the prices down with high quality standards and we sponsor a lot of social events every year. That's reflected in our market share, which has increased every year". He added: "For our employees we have a good rewards system which gives the best performing employees good rewards in addition to good salaries".

Two middle managers claimed to provide customer satisfaction through a comprehensive system comprising appropriately trained staff, good infrastructure such as aerial masts, a sound management information system, state-of-the-art technology and well sited shops. One middle manager said: "the Orange network covers 99% of people in Jordan and we have three hundred and fifty-eight shops giving good service to our customers. ... In 2007, we had a hundred and six training courses in quality issues in addition to one of the best management information systems to handle and control all customer complaints. All this makes the customer satisfied with our services". Another added: "We use statistical tools such as six sigma to measure customer satisfaction in addition to ongoing communication with them through the customer care department and the suggestion and complaint forms. And market share and net profit are other ways to assist in measuring customer satisfaction". A middle manager explained that "to continue meeting the demands of customers and to drive better customer service, Orange restructured its business units on the basis of the market segments they address: Personal, which specialises in meeting the requirements of customers looking for mobile line solutions with highly focused customer service and differentiated offers, Enterprise, which specialises in gathering and combining all aspects of the relationship with corporate customers such as companies, bank, public..."
and private institutions, and Wholesale, which specialises in managing the relations between the company’s networks and all national and international operators". A fourth middle manager said: “Orange spent, in 2007 alone, more than sixty-four million on infrastructure, such as 200 new masts. There are now 3110 masts around Jordan. Also, last year Orange spent around eighteen million dinars in sponsoring community activities”. Finally, another middle manager observed: “We used to focus our work on the government and institutional customers, but since 2007 we have expanded to all kinds of customers such as private institutions, students and business people, by presenting new offers”.

All interviewees at the shop floor level were of the view that customer satisfaction was the most important part of their work and that whatever they did to satisfy the customer would not be enough because, there would always be new needs. One employee explained it thus: “We cannot specify the customers’ needs, because their needs vary from one stage to another. Sometimes they want quality without attention to cost and sometimes they are looking for a good deal without considering the quality”. Another remarked that “in our company the customer is always right” and a third added: “We must serve our customers in the best way, because we usually have a feedback questionnaire about the services that have been introduced and this feedback is included in the annual evaluation report”. Finally, a fourth employees qualified subjected his feeling by sighing and took a deep breath before he said that “customer satisfaction is the core of our work”.

The researcher made a phone call to the company as a customer to complain about his credit. He found that the procedures followed were professional and that the problem was resolved within 10 minutes. He also had access to some documents concerning the restructuring of the company, some social events that it sponsored, its system of incentives and sanctions and the amounts spent on improving its infrastructure.

4.2.6 Key processes and instructions
In order to elicit responses concerning the way in which the introduction of ISO 9001:2000 was approached, the interviewees were asked the questions given in section 4.1.6.

One top manager stated: “When we agreed to start the quality journey, we decided to establish the quality department. Then we gave the manager of that department full
authority to build our own quality system. We decided later on to go for ISO 9001:2000 and its requirement and procedures in 2007. After that we are going on to get the best quality certifications, such as the European one and King Abdullah II". In support of this view, another top manager said: "When the company decided to go for the quality journey, we held regular meetings concerning the quality issues in the company. We had a meeting with the quality manager every three months, another with middle managers every six months and an annual meeting between the top and middle management levels and all the supervisors in the company".

Two middle managers mentioned that Orange had embarked on the quality journey in 2003. It was then a publicly owned company, so work on quality procedures was very slow and employees were not serious in implementing the quality procedures. However, when the government started selling Orange shares to the private sector in 2004, the company began the real quality journey by providing human and financial resources, an information system, technology and documentary procedures. A middle manager said: "In 2005 the CEO gave the quality department full authority to start implementing a strategic plan to be a quality certified company. We started our work by reviewing different quality systems. Then we did some internal audits and finally some cross-functional procedures, and set the work procedures and instructions to get our own quality system". A second added: "We started our quality journey by deciding to go for ISO 9001:2000 certification. The work procedures then focused on training employees for the requirements of certification through some internal and external workshops and meetings between the quality and other departments in the company. This led after only three months to the certification of our company". A third middle manager complained that "the quality standards are additional work for our departments, because we usually do our work by following quality procedures".

Eight shop floor employees claimed that they usually discussed their work in the departments to find the best way of doing their work. One employee admitted that the staff had been "forced to accept ISO 9001:2000 adoption", while another said: "We feel that the quality procedures are for quality certification more than for quality work, because we usually did our work according to the quality procedures in general before we adopted the ISO 9001:2000 standards".
The researcher had access to some documents giving information about the efforts that had been made before obtaining ISO 9001:2000 certification, including conformity between Orange departments and the ISO requirements.

4.2.7 Barriers to the implementation of ISO 9001:2000 standards
The Orange interviewees were asked the same questions as in section 4.2 concerning barriers to implementation. Table 4.2.7 summarises the views of top management, middle management and shop floor employees on such barriers.

All top managers interviewed agreed that commitment at their level was the most important factor affecting the implementation of ISO 9001:2000, because without it, the company could not obtain ISO certification. One explained: "We drew up a strategy plan for the company especially for the quality journey, which means that once we had given approval for the implementation of ISO, we had to fulfil the requirements needed for it. And that includes the human, financial, technological and technical resources". A second top manager said: "The first thing we did after we agreed to implement the quality system in our company was to choose an expert to run the quality department, because we saved time and costs in running our quality system, so that we could implement ISO 9001:2000 easily in the present and some other quality certification in the future without any problems". A third observed that "one important barrier to implementing ISO was being a government institution, because nobody cares enough about the importance of continual improvement or customer satisfaction. But when the private sector bought the company, they started to concentrate on quality standards and certification".

All middle managers agreed on the importance of the support of top management before the implementation of ISO 9001:2000. As far as the barriers were concerned, one of them reported: "Before we started the implementation of ISO 9001:2000 certification, I checked the commitment of top management and whether they would support us in the requirements for certification. Then I discussed the clear vision and mission of top management in implementing the certification. A second one said that it was "a matter of time", adding: "To get the certificate, we started by choosing the consultant company that could help us in obtaining the ISO certification, choosing the best qualified people in the quality department and other departments as well. Then we followed a road map for certification. Finally, we made a plan as to how we could overcome the barriers that
we may face and how we could maintain certification”. A third identified two main barriers to implementation: “The first one was how we could manage our information system between the customers, the data that needed to be implemented in the company and what was required by the consultants. We also had to deal with quality issues and procedures through the quality department. The other thing was how we could implement changes to internal auditing and the procedures in all departments, because we had to check all these procedures to see whether they conformed to ISO 9001:2000 standards and to decide how to make adjustments”. Three middle managers mentioned employee culture and resistance to change as two important barriers to certification, one of them explained that “some of the staff was very stubborn and resistant to change because of their backgrounds. Some had served in the military before joining Orange and others had worked at different levels in different sectors”. A fourth commented: “Before 2005, what had been found by reviewing the audit report had to be approved by the top management and changes had to be incorporated into the organisation’s policies and procedures. All that meant that a huge amount of time was needed for the ISO maintenance. The shortage of budgets and appropriate manpower represent other barriers”. Two middle managers stated that lack of involvement by employees was very important in the successful implementation of ISO 9001:2000. Finally, a fifth middle manager felt that “the ambition of staff to have senior positions was an important barrier. For instance, the Executive Manager is the preserve of the French people, as they hold more than 50% of the shares of the company, in addition to some other top management positions. This monopoly sometimes affects the ambition of the staff to have senior positions, because some top and middle managers did not give their full support to achieving the ISO 9001:2000 certification”.

All interviewees at shop floor level mentioned the importance of top management support and the involvement of employees in the implementation of ISO certification. One employee supported this view by saying that “many employees did not understand ISO 9001:2000 and perceived it as a hindrance in doing their work”. Another complained that “reward and recognition were not sufficiently offered to staff involved in the certification activities”. Four other employees mentioned that meeting ISO requirements involved extra work without adding value. Thus, one said: “I felt that ISO procedures were extra work. This is the responsibility of the quality department”, while another said that he had no interest in “the documentation and other ISO-related process work”, which were “quality department issues”. Another commented: “They
told us we needed this certificate because of continual improvement – then when the customer complained or work was a little bit late, they started to change the procedures to satisfy the customer”.

Table 4.2: Views on barriers to ISO implementation at Orange

<table>
<thead>
<tr>
<th>Top Management</th>
<th>Middle Management</th>
<th>Shop Floor</th>
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<tr>
<td>Lack of top management commitment</td>
<td>Lack of top management commitment</td>
<td>Lack of top management commitment</td>
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<tr>
<td>Lack of human resources</td>
<td>Lack of clear vision and mission regarding certification</td>
<td>Limited involvement of employees</td>
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<tr>
<td>Lack of financial resources</td>
<td>The large number of consultation companies, which led to low quality in implementing ISO certification</td>
<td>Lack of clear vision and mission regarding certification</td>
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<tr>
<td>Leaving the company in the public sector</td>
<td>Inadequacy of management information system</td>
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<td>Lack of technical resources</td>
<td>Weakness of follow-up to the recommendations of the internal auditing evaluation and procedures</td>
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<td>The employee culture, which did not comply with the requirements of ISO 9001:2000 certification</td>
<td>The employee culture, which do not comply with the requirements of ISO 9001:2000 certification</td>
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<td></td>
<td>Resistance to change</td>
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<td></td>
<td>Lack of human resources</td>
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<td>Lack of financial resources</td>
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<td></td>
<td>Limited involvement of employees</td>
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<td></td>
<td>Poor correspondence between the company’s work and ISO 9001:2000 requirements</td>
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<td>The ambition of staff to be promoted to top and middle management jobs</td>
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The researcher examined some documents containing the internal and external auditing reports from 2004 to 2008 and noting yearly improvements in the company’s procedures. These documents referred to the support of top management to facilitate the adoption of the quality system in general and ISO 9001:2000 certification in particular. They also hinted at some barriers which were evident during implementation of the system.
4.2.8 Continual improvements helping to overcome barriers to implementation

The Orange interviewees were asked the same questions as Zain respondents regarding ways of overcoming barriers to implementation (see section 4.1.8).

One top managers explained that they gave empowerment, authority and confidence to the staff to solve any problems arising with customers directly, which improved employees' satisfaction. This also led to a change in the culture of the staff, especially when the company considered their suggestions and ideas, which was one of the main factors in overcoming the barriers. One top manager stated that "monitoring and analysing the work progress constantly was one important factor in overcoming the barriers". Supporting this view, another top manager said: "We have a short meeting every day with the managers of the departments, to discuss how we can solve any problems we have and how we can develop our work". Finally, another stated that barriers to ISO certification were overcome by "upgrading the work procedures and running more courses concerning quality in general and ISO 9001:2000 in particular".

One middle manager said that they concentrated on the feedback of the internal auditing evaluation reports which had several benefits in overcoming barriers to the implementation of ISO 9001:2000. He explained that through an example: "We received a complaint that an employee in one of our shops did not deal well with customers, so we decided to build a network between the customer care people, some middle managers, the quality department and the shops using video cameras and an effective management information system to discover how the employees dealt with customer complaints". A second one added that "in addition to scheduled visits to our shops, we employ an external 'mystery shopper' company to send its people to the shops as normal customers at unscheduled times to ascertain the implementation of company policy, instructions and regulations in dealing with customers and to give feedback to top management". Another three middle managers said that departments used quality and statistical methods such as six sigma to achieve continual improvement and that this helped in overcoming some barriers. The first middle manager reported: "After training employees on reasons, benefits and how to implement the requirements of ISO 9001:2000 standards, I used incentives and penalties to ensure that the correct work was done in the department". The second said: "We usually use the scientific approach to solve problems. We start by identifying and analysing the problem, and then try to
identify the cause. Next we discuss and develop a plan for corrective action. After that we evaluate that action. And finally we place this action on the record”.

Eight respondents at shop floor level said that they received orders from their superiors and implemented them; then, if any problems arose, they would inform their superiors, who would suggest the solutions to be implemented. One employee said: “If any problems come up in our work, we fill a form and send it to our bosses. Then they will come and discuss the problem. After that they will give us the solution”. Another employee reported that “we usually have a meeting every week to discuss our work and to overcome any problems affecting continual improvement in the department”. One of his colleagues added: “We discuss our suggestions with our manager, and then we take a decision to implement one of our suggestions. This has helped us to change our culture towards the aims and objectives of the company, which leads to overcoming the barrier of the employees’ culture that affects the implementing of ISO standards”. Finally, another employee stated that “continuity in internal auditing and in the training courses on the awareness of quality issues and procedures can overcome the barrier of employees’ culture”.

The researcher saw documents relating to various annual, quarterly, monthly and weekly meetings at different management levels in addition to some teamwork groups. He also joined the mystery shopping team during a visit to an Orange shop. The feedback was that the employees in that shop were following the company procedures in dealing with customers.

4.2.9 Barriers to maintenance of ISO 9001:2000 certification
The interviewees were asked the same questions on barriers to maintenance of certification as listed in section 4.1.9.

The top managers commented that they wanted to involve all middle managers to make them part of the internal auditing process and so help in the maintenance of ISO certification. One mentioned the necessity to “concentrate on the internal auditing evaluation report in each period and to keep implementing the recommendations in those reports, which is a very important point in the maintenance of certification”. He explained that this was done “to improve our work in the future and to be ready to go
further to get more quality certifications". A second top manager said: "I believe that changing the employees' culture is one of the most important factors here. One way of doing this is the reward system. We have a full reward system in the company and we encourage initiatives and ideas". In addition, a third stated: "We have an intensive meeting every three months to review the company's instructions, to evaluate the employees and to put the right person in the right position. I think these important points could help in maintaining certification".

Two middle managers believed that ISO certification alone could not affect the work, but that it was important to provide more training courses on awareness, understanding and orientation for employees at different management levels. One middle manager added that "encouraging employees to work in teams, in solving problems facing the company and in generating some ideas that could improve the work, are important points in maintaining the system". A second supported this view: "Giving authority to employees by appointing a deputy to every middle manager, and adjusting the job descriptions and the job specifications, can help in keeping the work going smoothly and enhance the maintenance of ISO certification". A third middle manager felt that "continuing to develop the company's infrastructure and solving the problems revealed by the internal auditing evaluation reports are the main points in maintaining the ISO system". Another said: "My department used to invite customers from different levels to discuss the procedures followed in the company. This is important in maintaining the ISO system, in addition to continuing to guide people to the quality services that we provide".

Seven of respondents from the shop floor agreed that the reward and recognition system was good and that it encouraged employees to work in a professional way. One employee complained, however, that "the reward and punishment systems are not fair, because when you make one mistake, you will be blamed and punished directly, but you have to do a lot of good work to get any reward". Another pointed out that "temporary and permanent teamwork is common in the company but the individualism in the culture of our managers can also be seen from time to time". Three other employees stated that they usually did whatever their managers told them to do, even if they were not happy to comply, because they would be blamed and punished if they did not.
4.3 Umniah
Umniah is a private mobile company which at the time of the study had not been ISO 9001:2000 certified. It was the newest private mobile company in Jordan, with the third largest market share, standing at 26% at the end of 2007 (Al-Ghad, 2008). As Umniah was planning to apply for ISO 9001:2000 certification during the second half of 2009, the interviews with its staff were designed to elicit information on its preparations, processes and procedures towards certification and perceptions of barriers to this. Umniah was established in 2005 and in June 2006 the Batelco Group of Bahrain bought 96% of its shares. Its started the quality journey in 2006 and captured an impressive mobile market share, which rose from 14% in 2006 to 26% in 2007 (TRC, 2008).

4.3.1 Reasons for seeking ISO 9001:2000 certification
The interviewees were asked the same questions on the reasons for seeking certification as those employed by the two operators which had already achieved certification (see section 4.1.1).

One top manager said: “We took the decision to obtain ISO 9001:2000 certification for many reasons, such as the desire of the owners of the company, because they have branches in four countries and they want to obtain ISO certification in all these branches as soon as possible. Also, we studied the ISO certification and felt that it could be a step in our work towards continuous improvement”. Another added: “ISO certification will improve the image of the company, which will increase the number of customers and increase our profitability”.

Four middle managers agreed that obtaining ISO certification was a wish of the top management. One said: “The ISO system should increase the quality of work and the employees’ productivity, and that will lead to customer satisfaction. This represents one of the company’s reasons for wanting ISO certification”. A second middle manager supported this view: “Adopting the procedures of the ISO system should enhance the provision of training, encouragement and motivation of the staff, which will result in continuous improvement and increase customer satisfaction”. A third said: “We believe in providing job responsibilities to each employee and assigning each employee more authority. And that is what the quality management system does”. Another colleague suggested that the nature of the mobile market was the most important reason for obtaining ISO certification. They added that it would improve output; it would give a
good impression of the company to customers in the local and regional markets, and could also be a market tool for Umniah's competitors. Finally, one middle manager said: "ISO certification is a fundamental step in the quality journey, which we hope will get us more and more quality certifications".

Six shop floor interviewees had heard about ISO certification but they did not know that their company was in the process of obtaining it. Four of them stated that they did not know the reasons for seeking ISO certification, while another two did. One of these explained: "Since last year the company has been trying to obtain some quality certification, and we succeeded in some cases, especially in the human resources department, and that of course means efficiency in work". Another two employees observed that because two competitors were already ISO certified, joining them would improve the company's image.

The researcher obtained access to documents giving the reasons for seeking ISO 9001:2000 certification. These focused on continuous improvement as a motivation.

4.3.2 The benefits expected from ISO 9001:2000 certification

The following questions were asked to elicit views concerning the benefits expected from obtaining ISO certification: "Do you feel that the organisation would receive benefits from obtaining ISO certification? Why?", "How could ISO 9001:2000 certification affect the company's aims and objectives?" and "Are you aware of benefits expected from obtaining ISO 9001:2000 certification?"

One top manager replied: "In fact, we have already started gaining benefits from obtaining ISO certification, such as improvements in our work. We can see some enhancement in the documentation system in addition to professionalism in writing reports". Another top manager said: "We expect some benefits from obtaining ISO certification such as improvements and professionalism in our work. A good image should lead to customer satisfaction and change the employees' culture. And I think we have started gaining some of those benefits".

Three middle managers shared this view and mentioned decision making as one of the benefits of certification. Decision making starts with the employee's decisions, then extends to the department or team and receives support from middle management before
being passed for approval to top management. One middle manager supported this view, suggesting that "the involvement of the employees in ISO certification activities could influence their culture to make it fit with the requirements of ISO and the company as well". A second middle manager said: "Getting clearer job specifications and job descriptions, a better documentation system and institutional work are some benefits expected from obtaining ISO certification". A third stated: "We have conducted internal auditing from time to time to see whether our department is on the right track in implementing the quality procedures. These procedures help in improving the work and solving any problems that could arise". Finally, a fourth middle manager added that "the training courses include all management aspects such as generating ideas, writing reports, discussion in meetings and dealing with others in teamwork. These training courses will lead to some benefits in the company in the near future".

Four employees from the shop floor level reported that they had been informed of the preparations for the ISO certification. They added that working under a quality system was a good thing, but it focused on documentation systems and customer satisfaction without adequate attention to the employees' satisfaction. One complained: "There are some completely unnecessary work procedures. It's just additional work". Two other employees pointed out that their definition of any quality system, including ISO, would be related to the image of the company and to satisfying external customers. Another two mentioned some of the benefits of following ISO procedures, such as effective teamwork systems, better documentation systems and good communications among employees. Another employee said: "I can get some benefits from obtaining ISO certification, such as new experience in the right way to do jobs like reporting, documentation, and working with others. But at the same time we should have extra employees to do the administrative work, because there will be much more of it".

The researcher examined some documents including reports from the quality department, highlighting improvements during 2007 such as a more effective documentation system, professionalism in writing reports and intensive teamwork.

4.3.3 Knowledge, awareness and understanding of ISO 9001:2000 requirements and quality issues
The interviewees were asked the same questions as set out in section 4.1.3.
The majority of top managers' responses indicated moderate knowledge and understanding of ISO certification. One top described it as "a quality management system that focuses on customer satisfaction and documentation systems". Another had good knowledge of ISO certification because he had experience of quality systems in general. A third noted that the company wanted to obtain ISO certification and that awareness programmes were launched in 2007. He added: "We promised to give full support and empowerment to the quality department to get ISO 9001:2000 certification. In addition, we provided extra budget and human resources for these purposes".

The majority of middle managers had good knowledge and understanding of ISO certification. One of them said: "ISO is a quality management system and the main requirements are customer satisfaction and continuous improvement". Three middle managers admitted that employees needed more explanation of ISO standards. For instance, one observed that people had started to change their perceptions as more explanation of ISO was given. He added that "the employees' culture was not against ISO requirements; the trouble was that some people did not fully understand ISO 9001:2000 requirements, and they became negative towards the standard". A second middle manager said: "We know that training helps to increase the knowledge and understanding of ISO standards; therefore, there was a budget for training courses of 1.5% of total revenue". Similarly, a third reported that "we spent JD 600 000 on training courses in 2007. But unfortunately there were very few quality courses".

Four shop floor employees mentioned that the company had the intention to implement ISO certification and that this issue was discussed in their meetings. Two of them felt that the ISO system would mean more reports and extra paperwork. Three others thought that the system was difficult to implement, so they should work hard to do so. They also stated that they had attended quality seminars in 2007, but they needed more orientation and training courses to fulfil the requirements of ISO certification.

The researcher noted from his observation that the attitude and behaviour of employees and managers at different levels towards customers was good comparing to the other mobile case study companies. He also found that the company had documentary records of the training plans for 2007 and 2008, indicating that each employee attended an average of 3 courses in 2007.
4.3.4 Authority and empowerment of employees
The interviewees were asked the questions on authority and empowerment listed in section 4.1.4.

The top managers agreed that most staff at different management levels had adequate authority and empowerment. One top manager observed that everyone had "freedom to speak and suggestions of employees are considered". Another noted that "decision-making in the company depends on an institutional process. Usually, all the management levels are involved in this".

The views of two middle managers are summarised by one who said: "Most of the time the decisions are decentralised but sometimes, especially concerning information about the company, you have to get permission from your boss". They also agreed on the empowerment they had from top management regarding their departments' work. Moreover, they felt that the flattened structure made the communication between top management and other management levels quicker and easier. One middle manager had a mixed assessment: "Top management pays attention to suggestions and they are discussed thoroughly. But employees are sometimes not aware that you can't just implement all their ideas and suggestions". Another said: "We middle managers have enough authority to implement any idea as long as it's agreed with quick permission from one top manager. For example, the quality department has full authority to enter any department and make sure that they are working according to ISO requirements". A third explained that "teams have empowerment and direct links with the executive director to get immediate approval when an idea has been agreed. For example, when the company wants to provide a new phone offer, it would not take more than 24 hours to get the authority to do it".

Some employees on the shop floor were happy with the degree of authority and empowerment they had, especially in the customer care department and in the shops, to deal with issues related to customers and to solve any problems arising as soon as possible. At the same time, however, some other employees complained of too little authority, especially in the accountancy and public relations departments.

The researcher had access to some documents providing evidence about authority and empowerment granted to the staff, especially delegations; but direct observation
indicated that it was not easy to obtain an appointment to meet informants at any management level without permission. The researcher also followed the progress of a suggestion made by an employee and sent to the secretary of the executive director. It was passed to the officials concerned to study and respond to it, and this process took three days.

4.3.5 Customer satisfaction

On the topic of customer satisfaction, the interviewees were again asked the same questions as those put to employees of Zain and Orange (see section 4.1.5).

Three top managers stated that the company provided opportunities for those who had recently graduated from university to obtain valuable practical experience. They were employed in various departments, in different locations and on a range of tasks. During the previous year, 18 graduates had been given permanent posts. One of them reported: "Umniah was granted a WiMax license in March 2007 and UMAX in November 2007 to provide wireless internet services. This latest revolution in the field of wireless communication technologies can provide a fast broadband wireless internet connection in a manner similar to receiving broadcast radio or television at an appropriate cost. This service, with our mobile technologies, gives a full advanced package to customers at low prices". A second top manager said: "To satisfy our employees, we provide an opportunity for them to complete their education through programmes such as masters of business administration and science, bachelor degrees and higher national diplomas. In addition, other professional qualifications are obtained in Jordan, the UK and the USA, which will make employees more loyal and likely to remain working for us for longer".

Two middle managers explained that the company provided an online channel for customer complaints, including online surveys, suggestions and complaint forms, and that it organised an annual open day for customers of all kinds to share their views and make requests regarding the company's future work, all of which was intended to boost customer satisfaction. One middle manager said: "We have a whole monitoring system for customer complaints starting from the first contact through calls or forms to the final step, which is solving problems, using an advanced computerised system which gives the customers confidence in our work". In addition to satisfying external
customers, another middle manager observed that "providing a comfortable canteen with full refreshments for employees, as well as monthly trips for them inside Jordan, makes them happy and satisfied". A third middle manager supported this view and added: "All staff members must enjoy their work, to make sure that it will be done efficiently and well. Therefore we’ve tried to involve more staff in ISO procedures and auditing, and we’ve divided responsibilities through maximum employee involvement".

Four interviewees at shop floor explained that Umniah worked constantly to satisfy external customers in some way, such as opening more shops and erecting more masts to make its network among the best. One employee supported this view and added: "The company encourages dialogue between employees and customers about the services offered and provides facilities to keep up good communication with customers". In addition, another two employees stated that Umniah tried to satisfy its employees in several ways, such as providing annual trips outside Jordan and organising an annual event for rewards, which stimulated them to work harder. Some other employees, however, were not satisfied, saying that although the company provided good rewards, they had to work very hard to obtain them. Moreover, six interviewees also agreed that while rewards and recognition were good, there was a bad punishment system in the company.

The researcher examined documents showing increases in salaries and adjustments to the reward and punishment systems.

4.3.6 Key processes and instructions
The interviewees were asked the same questions regarding key processes and instructions as those given in section 4.1.6.

Top managers agreed that they had decided to seek ISO 9001:2000 certification and that they would launch the campaign in the second half of 2009. One said: "Our plans in 2006 and 2007 were geared towards expanding our market share, which meant gaining profits, because we only started up in July 2005 and we have invested a huge amount in the mobile sector in Jordan. Umniah services have been targeted at young Jordanian and low income groups. So, after only a year, Umniah captured an impressive market share of approximately 14% in 2006, and reached 26% in 2007. After that, we prepared
our plans and budgets in 2008 and 2009 with an eye to quality management systems. We already have two international quality certificates, which are the Best Program for the Transformation of Business and the Global Initiative Award for Human Resources. We will also obtain ISO 9001:2000 in 2009”. Another top manager said: “When we decided to go for quality certifications, we agreed to restructure our company to make it flatter, so it’s easy now for any employee to meet any member of top management. We’ve also tried to take our decisions in systematic ways and avoid individualisation as much as we can. And that makes the employees at all levels more involved in the company’s decisions”.

One middle manager mentioned that when top managers took a decision to implement ISO 9001:2000 certification, “we brought in the ISO standards and started to follow the procedures with full support from top management, and that gives us the empowerment and authority needed to obtain ISO certification”. A second added that “we are not in a rush to obtain ISO certification. We are trying now to find a fit between ISO requirements and the department’s work. We’ve tried to convince employees at different management levels that ISO requirements match and support their work. Now we’re at the stage of doing more internal auditing to make sure that the employees are implementing the ISO procedures in the right way. We’ve discovered some mistakes and fixed them”. Another said: “All ISO procedures are in the drawer and the certificate is on each top and middle manager’s desk. But they are dealing with our needs to implement ISO certification rather slowly. They promised to add some more human resources for training and orientation towards ISO standards and requirements". In the opinion of a fourth middle manager, “there are two main points that quality managers should be aware of as we continue the journey to get ISO certification. First, employee’s views on ISO have to be changed through more training and orientation, and second, the ISO system should be written in a specific way and details should be clear, so that employees can implement the system smoothly”. A fifth described the company as between reaction and action planning. He added: “We started our work on ISO 9001 procedures as an action plan in July 2007. Before that our work was just firefighting and reaction”.

Five employees at the shop floor mentioned that they were becoming involved in ISO procedures. Two of them reported that they did not feel that their bosses were involved in implementing ISO standards for the sake of improvements, because the records were
updated only during the auditing sessions. On the contrary, their bosses sometimes worked without any consideration of ISO requirements. However, other two employees said and that their superiors had promised to give bonuses and benefits to all staff involved in the ISO initiatives. One said: "Working under ISO procedures is not a problem. But the real problem is the conformity between the departments' work and ISO procedures, especially since the paperwork for ISO sometimes causes delays in the department's work". Another employee supported this view and added that "the company should take on more employees to do the administrative work on the ISO system, which needs at least one extra employee in each department".

The researcher saw documents concerning the 2007 training programmes. Courses focused on providing professional training related to quality programmes in general and to specific categories including management, communication and education, information technology, sales and e-learning. The researcher also had access to one full management procedure, which was for dealing with a one-day leave request by an employee. The procedure started with the employee providing hard and soft copies (through a computer program) of the leave application form; then his line manager would sign the hard copy and indicate his approval on the soft copy. The human resources employee in charge of this matter would then submit the soft copy through the computerised personnel system, and an output report would appear automatically on the screen, giving the holiday status of the employee. If he had enough days, the system would reduce his entitlement by one day; otherwise, it would automatically go to the finance department, which would deduct a day's pay from his salary. Hard copies documenting these steps would then be placed on file.

4.3.7 Barriers to the implementation of ISO 9001:2000
Questions which were asked in order to elicit the interviewees' views on barriers encountered to the implementation of the ISO certificate included: "Why has your organisation not yet sought ISO 9001:2000 certification?" and "What are the barriers preventing your organisation from implementing ISO certification?". Table 4.3 shows the views of managers and employees regarding such barriers.
### Table 4.3: Views on barriers to implementation at Umniah

<table>
<thead>
<tr>
<th>Top management level</th>
<th>Middle management level</th>
<th>Shop floor level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lack of top management commitment</td>
<td>Lack of top management commitment</td>
<td>Lack of clear vision and mission regarding ISO 9001:2000 certification</td>
</tr>
<tr>
<td>The employees culture clashes with the requirements of ISO 9001:2000 certification</td>
<td>Lack of clear vision and mission regarding certification</td>
<td>Lack of human resources</td>
</tr>
<tr>
<td>Limited involvement of employees</td>
<td>Lack of financial resources</td>
<td>Lack of clear vision and mission regarding ISO 9001:2000 certification</td>
</tr>
<tr>
<td></td>
<td>Limited involvement of employees</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Resistance to change, especially from senior employees</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Lack of awareness and understanding of ISO 9001:2000 certification</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Lack of training courses in quality issues</td>
<td></td>
</tr>
</tbody>
</table>

Top managers stated that obtaining ISO certification was a top management decision. One explained this by saying: "As you know, the company is two years old, and the owner paid lot of money when they entered the Jordanian mobile market, so the priority was towards profit and market share. However, we took a decision to obtain ISO certification in 2009". Another said: "Implementing ISO certification needs changes in management and employee culture as well as involvement in ISO certification and that was what we did in 2007 and are still doing in 2008 to get ISO certification". A third noted that "the decision to get ISO certification was taken and there is total support for the process. We have given a promise to fulfil the requirements of ISO certification".

All middle management respondents agreed that obtaining ISO 9001:2000 certification was a top management decision and commitment. One middle manager said: "One main barrier to the acquisition of ISO certification is a clear vision and mission explaining why, how and when we could obtain ISO certification. Because some top managers said that we should go for profits first, then quality certificates, and that means that quality is an obstacle to making a profit". A second middle manager
expressed the view that inadequate financial and human resources represented the most important barrier to ISO certification. He added: "We don't have enough employees in our departments to implement the requirement of ISO certification and a request to increase the number of employees was rejected because of budget limitations". A third said: "I think that involving more top and middle managers will make employees on the shop floor more involved in ISO certification and in the auditing process. This involvement will change employee culture and overcome resistance to change, because we can see that new staffs are keen on adopting ISO requirements and activities, while some senior ones are not receptive, as they believe that ISO wouldn't help to make improvements in the company's work". A fourth identified "the lack of awareness and understanding of ISO standards among employees at different management levels" as a barrier to certification. He went on: "We tried to put more quality training courses in the 2007 plan, but we couldn't. However, we have a promise to do it in 2008 and 2009". Finally, a middle manager observed that "the top management wants to obtain ISO certification as soon as possible, but fulfilling the requirements, procedures, polices and guidelines will need time. So they've decided that the second half of 2009 is the appropriate time to apply for certification".

Six employees agreed that Umniah's priority was towards customer care, which will tend to increase the market share and profits, and no more. Thus, customer satisfaction was seen as the most important barrier to the implementation of ISO certification. One employee explained that "the company should find a match between quality work and customer satisfaction". Another supported this view by saying: "Anything that works against customer satisfaction will not be implemented in the company, even if it is related to quality". A third commented that "the quality department sent procedures to follow regarding ISO certification. But these procedures need extra staff to work on them, especially now that we have a lot of work to do and we can't fulfil ISO requirements and our normal work requirements". A fourth suggested that managers lacked "clear vision. ... Sometimes our boss says that finishing our work is more important than doing it according to the quality procedures".

The researcher observed that the company gave priority to profits and market share during 2005, 2006 and 2007. There was evidence that the entire quality department comprised only three employees.
4.4 Xpress
The fourth company, Xpress, was also not ISO 9001:2000 certified. It is the third oldest private mobile company in Jordan, having started trading in June 2004, and by far the smallest by market share, at only 3% (Al-Ghad, 2008). The purpose of the interviews in this case study were to discover what had prevented the company from obtaining ISO 9001:2000 certification and whether it intended to implement the standard. Interviews were held with one top manager, two middle managers and five employees at the shop floor level.

4.4.1 Reasons for not seeking ISO 9001:2000 certification
In order to elicit reasons for not obtaining ISO certification and background facts concerning the company's approach to quality, the researcher used open-ended questions such as "Why did your organisation decide not to seek ISO 9000 certification?" and "Is there any need for a quality system in Xpress?"

The top manager stated that he and his colleagues were "not persuaded to obtain ISO 9001:2000 certification because there is no guarantee of gaining any benefits from this". He added that "implementing ISO certification needs support and more facilities, which means more money to spend, and it's not our priority to spend money. Our priority is to expand our market share first, because we paid a lot of money to enter the mobile sector in Jordan".

The two middle managers agreed that top management was not interested in ISO certification, because they could see no benefits to be gained from the process. One said: "I don't think that ISO is the right quality certification for us to obtain, either, because its focus is on the documentation system and we can see that our own quality system is more advanced than the ISO standard". The other observed that "the quality system in the company has been discussed many times, and top management are not thinking to implement ISO certification because they would prefer an advanced quality certificate such as King Abdullah II". He added: "Top management have no clear vision that obtaining ISO certification would be good practice for the employees in order to make it easier to obtain another quality certification".

The employees at shop floor level were not sure about the reasons for not obtaining the ISO 9001:2000 certification, beyond the fact that it was a top management decision.
4.4.2 Knowledge, awareness and understanding of ISO 9001:2000 requirements and quality issues

The interviewees were asked two questions to explore their knowledge, awareness and understanding of ISO certification: "Have you received any training related to quality management systems?" and "What is your knowledge of ISO 9000 standards?"

The top manager displayed good knowledge and understanding of ISO certification, saying: "I know the ISO standard, it is a quality management system and it has been modified several times; the last time was in 2005, but the major modification was in 2000". He added that Xpress had an annual training plan which included some training in quality management, improvement work and customer satisfaction.

The two middle managers appeared to have moderate knowledge of ISO 9001:2000 certification. One had worked for other mobile companies that had implemented ISO standards, while the other had attended some quality training courses outside the company concerned with improvement at work. The two managers agreed on the training plan at Xpress, but they were not satisfied with the improvements system. One said: "We should follow one of the international quality certification systems to keep up improvements in our work", while the other said: "It would be good to have some quality certification to enhance our image with customers, like our competitors in the other mobile companies".

The shop floor employees had little knowledge of ISO certification. Two thought that ISO was "related to quality in some way", two more said that "ISO deals with customer satisfaction" and the other said: "I heard about ISO in some training courses". A six one looked to his colleague and sighed, gestured his head and said that "I think it's about improve the procedures".

4.4.3 Authority and empowerment of employees

On the subject of empowerment, interviewees were asked the same questions as in the other case studies (see section 4.1.4).

The top manager stated: "Middle managers and team leaders have full authority to organise their work and to study any idea or suggestion, then send a feedback report to top management to get the approval to implement it".
The middle managers felt that no real authority or empowerment was given to employees. One said: "We have some limited managerial authority, but only for things such as details of employees' hours and minor adjustments to job descriptions". He also felt that consultation was poor: "Although we have regular meetings with top management to discuss the progress of work, we usually discuss only the ideas that they agree on". His colleague mentioned "I have just enough authority to implement the department's work properly. Authority and empowerment are OK in some departments, such as information technology and customer care, but very limited in some other departments such as finance and human resources".

Employees at the shop floor level reported that they had no authority or empowerment. One said: "Our suggestions and ideas are not considered". Another supported this view: "Meetings with top or middle management are purely for the record, because there is no freedom of speech and none of our suggestions are considered". Some other employees observed that decision-making was centralised at Xpress. One said: "We have one or two scheduled meetings in the year but the other meetings are held whenever the top management decides".

The researcher can confirm from examining documents and from his observations that limited authority was granted to employees of Xpress.

4.4.4 Customer satisfaction

On customer satisfaction, interviewees were again asked the questions listed in section 4.1.5.

The top manager admitted that he was not happy with work to improve customer satisfaction, but claimed that attempts had been made: "We have tried as much as we can to provide customer satisfaction. For example, we linked Xpress customers in Jordan with those in Palestine and Saudi Arabia, setting a very cheap tariff".

The middle managers explained that several meetings took place during the year with employees at different management levels to discuss the best methods to satisfy the customers. One of them listed some steps that had been taken: "Recording all customers' calls on a hotline and following the procedures to implement their suggestions as best we could, trying to solve them as soon as possible". The other
middle manager agreed that "Xpress has made some efforts to improve customer satisfaction", but felt that to make significant progress would require the building of a complete infrastructure system, which Xpress had not yet achieved.

The employees on the shop floor agreed that all work in Xpress was oriented towards customer satisfaction, but that as customer needs were numerous and varied, the company could not meet them all.

The researchers saw some documents that listed some events that had been sponsored by Xpress.

4.4.5 Barriers to the implementation of ISO 9001:2000

The following questions about barriers to the implementation of ISO certification were asked: "Why has your organisation not sought ISO 9001:2000 certification?" and "What are the barriers facing your organisation in beginning to implement ISO standards?" Table 4.4 shows the views of managers and employees of Xpress on these barriers.

The top manager declared that he and his colleagues were "not interested in ISO 9001:2000 certification because we do not feel that the company could gain any real benefits from it. We are not enthusiastic. But we are thinking of getting another international certification, such as the American, the European or King Abdullah II". He added that "ISO or any other certification would require facilities and support, and all that means a budget. And I think that the priority is to make profits at this stage, not to spend money".

One middle manager said: "It is a top management decision not to go for ISO certification. Their priorities are towards profits, expanding our market share in Jordan and opening new branches in other Arab countries". The other middle management interviewee mentioned some barriers to the implementation of ISO 9001:2000: "I think that the company is not prepared to get ISO certification or any other quality certification at this stage, because we do not have a quality department to follow the quality procedures for these certifications, in addition to the limitations in financial and human resources, not to mention a full and efficient management information system, which are important if we want to apply for quality certification. From my experience,
we also need some training courses, especially to change the employee culture, before we could start implementing ISO or another quality certification”.

The employees at shop floor level agreed that a decision on ISO certification would be made by top management, who appeared to be concentrating on increasing profits. Two of them mentioned that ISO or another quality certification would need more staff to implement it, and they were not sure if it would be possible to hire extra employees.

Table 4.4: Views on barriers to implementation at Xpress

<table>
<thead>
<tr>
<th>Top management level</th>
<th>Middle management level</th>
<th>Shop floor level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lack of top management commitment</td>
<td>Lack of top management commitment</td>
<td>Lack of top management commitment</td>
</tr>
<tr>
<td>The priority of top management is to improve profits, not to implement a quality system.</td>
<td>Lack of clear vision and mission regarding ISO 9001:2000 certification</td>
<td>The priority of top management is profit, not a quality system.</td>
</tr>
<tr>
<td></td>
<td>Lack of financial resources</td>
<td>Lack of human resources</td>
</tr>
<tr>
<td></td>
<td>Lack of human resources</td>
<td></td>
</tr>
<tr>
<td></td>
<td>The priority of top management is profit, not a quality system.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>The employee culture clashes with the requirements of ISO 9001:2000 certification.</td>
<td></td>
</tr>
</tbody>
</table>

4.5 Chapter summary
This chapter has set out the findings from the semi-structured interviews, together with documentary evidence and direct observation, providing valuable in-depth information on the barriers to the implementation of ISO 9001:2000 by each of the four private mobile telephone companies in Jordan. The use of multiple data sources—documents, archives and observation—is believed to improve the internal validity of the study. Moreover, this chapter contains the findings of some issues related to ISO implementation, such as: reasons for obtaining ISO certification, benefits from obtaining it and factors helps the certified companies to overcome the barriers to implement the ISO certification and Maintenance it which are summarised in tables 4.5, 4.6 and 4.8. Further, the researcher feels confident that he has presented some unique findings on barriers to the implementation of this specific type of certification that have not been reported in previous studies examined in the literature review, some of which are:
• The ambition of employees to seek top and middle management posts in the companies concerned.
• The restrictions applying when the companies were in the public sector.
• The failure to install complete management information systems.
• Imbalance between the working practices of the companies and ISO 9001:2000 requirements.

These barriers and others are listed in table 4.7. Finally, these findings and others will be classified into categories and will be discussed in the next chapter through compare these research findings with those of previous studies that have been addressed in the literature review chapter.

Table 4.5: Views on reasons to ISO implementation at the four case studies

<table>
<thead>
<tr>
<th>The reasons</th>
<th>Case A</th>
<th>Case B</th>
<th>Case C</th>
<th>Case D</th>
</tr>
</thead>
<tbody>
<tr>
<td>To improve the reputation and image</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>To continual improvement</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Satisfy customers</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Market related tools</td>
<td>X</td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Competitive reasons</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>To improve the internal procedures</td>
<td></td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Top management desire</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Increase profitability</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Providing job specification and description</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>No guarantee of gaining benefits from implementing the ISO certification</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Clear vision and mission</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>
### Table 4.6: Views on benefits to ISO implementation at cases A, B and C

<table>
<thead>
<tr>
<th>The benefits</th>
<th>Case A</th>
<th>Case B</th>
<th>Case C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Professionalism of the work</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Transparency in human resources management</td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Cost effectiveness</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Improvement of the work</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Go further in other quality certifications</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Improve the internal communication</td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Return of investment</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Improved the employees' skills</td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Change the employees' cultures</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>The institutional work</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Customer satisfaction</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

### Table 4.7: Views on barriers to ISO implementation at the four case studies

<table>
<thead>
<tr>
<th>The barriers</th>
<th>Case A</th>
<th>Case B</th>
<th>Case C</th>
<th>Case D</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lack of top management commitment</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Lack of resources requirements</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Imbalance between the working practices of the companies and ISO 9001:2000 requirements</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Failure to address customer satisfaction</td>
<td>X</td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Poor consultants and quality certification body</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lack of full management information system</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Limited employee involvement, authority and empowerment.</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lack of understanding and awareness of ISO 9001:2000 requirements</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Poor in the organisational management process</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Poor organisational culture</td>
<td>X</td>
<td></td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Lack of clear vision and mission</td>
<td>X</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Resistance to change</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>The lack of ambition of employees to seek some top management posts in the company</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Limited training and education programmes</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>The restrictions applying when the company was in the public sector</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>
Table 4.8: Views on factors to overcome the barriers to ISO implementation at the two certified case studies and maintain.

<table>
<thead>
<tr>
<th>Factor to overcome the barriers</th>
<th>Case A</th>
<th>Case B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Create a reward system to the staff</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Different meeting to discuss proposals to overcome the barriers</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Keep a regular reports to follow the quality implementation</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Gave empowerments and authority to staff</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Implementing the cross functions and teamwork</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Keep training the staff on awareness and requirements of ISO standards</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Keep scheduled and unscheduled time to inspecting undeclared work</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Established management information system</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Keep the internal and external auditing</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Keep the procedures in line with the ISO requirements</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Keep workshops on preventive actions and non-conformance cases</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Cancelled some unnecessary procedures to implement ISO certification</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>The chooses of good consultation company</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Clear job specifications and description to the staff</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Keep customer satisfactions</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Change the employee’s culture</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Used statistical methods to keep the continuous improvement</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Used the scientific approach to solve problems</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Providing the resources requirements</td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>
CHAPTER FIVE
DISCUSSION OF THE DATA FINDINGS

5.0 Introduction
In this chapter, the empirical findings are discussed in the light of the literature reviewed and the barriers listed in chapter two. The discussion and analysis of the data will be related to the aim and objectives stated in chapter one and the research questions identified in chapter one of this study. The basis of the discussion will be the similarities and contradictions between each element found in the literature review and the corresponding findings in the case studies. In relating these findings to the previously reviewed literature, it is then hoped to achieve a better understanding of the similarities and contrasts among the case studies in Jordan and between organisations in Arab and western environments.

The chapter is organised into nine sections:

- Section one discusses: issues related to the implementation of ISO 9001:2000 in the case study.
- Section two discusses: the barriers to the implementation of ISO 9001:2000 in private mobile companies in Jordan, which is the main aim of this study.
- Section three discusses: overcoming barriers to the implementation of ISO 9001:2000 and maintaining it.
- Section four discusses: barriers that have emerged after an analysis of the findings of this study.
- Section five discusses: classified the barriers to the implementation of the ISO certification.
- Section six discusses the Contribution to Knowledge
- Section seven discusses the Operational Recommendation
- Section eight discusses the Recommendation for Further Research.
- Section nine discusses the limitations of the study.

5.1 Issues related to barriers to the implementation of ISO 9001:2000

5.1.1 Reasons for seeking ISO 9001:2000 certification
This research has identified many reasons for ISO 9001:2000 certification. The researcher believes that knowing the reasons for implementation will illustrate the
degree of commitment among the top management, casting light on the barriers to implementation and how these companies overcame them.

Case study evidence from the two certified companies indicates that the first main reason to seek ISO 9001:2000 certification was continual improvement. The respondents saw ISO 9001:2000 as the first step in a quality journey and had designed the quality system to obtain more quality certifications, to achieve total quality management and to approach excellence. This can be achieved through the clear vision and mission and clear understanding of the important and the requirements of the ISO in particular and other QMSs in general. This finding is consistent with some Arab studies such as Tayyara et al. (2000), Sharif (2005), Al-Haj (2006), and some western ones such as Quazi et al. (2002), Fuentes et al. (2000) and Santos and Escanciano (2002), which have been detailed in the literature chapter of this study.

The second reason was to improve the internal and external work by encouraging teamwork. The companies planned to have standardised departmental operations, policies and procedures. Moreover, the respondents mentioned that standardisation was the basis for quality audits. Further, the ISO standards guide the company to provide job specification and description. This finding agrees with some Arab studies such as Tayyara et al. (2000), Sharif (2005) and Alhaj (2006) and with some western studies such as Quazi et al. (2002), Fuentes et al. (2000) and Santos and Escanciano (2002).

The third reason was to improve customer satisfaction. The responses indicate that customer satisfaction was seen as the capital of the companies and that in the Jordanian mobile market, which is one of the most competitive markets in the area, it plays the main role in fixing market share. Thus, companies are aware that they have to plan not just to satisfy their customers but also to work beyond that to implement customer expectations; indeed, all mobile offers now work on that assumption (al Chad, 2008). By obtaining ISO certification, a company improves its image and it can use certification as an advertising tool to gain recognition. Customers then feel confident in the company’s work, especially regarding quality issues, which is reflected in improvements in working procedures. This finding is similar to those which have been detailed in the literature chapter of this study such as Tayyara et al. (2000), Sharif (2005), Alhaj (2006), Quazi et al. (2002), Fuentes et al. (2000) and Santos and Escanciano (2002).
The fourth reason concerned markets, both local and international. According to the responses, there were several aspects to this, including the very competitive market in Jordan between the mobile companies and the fact that each company wished to gain more quality certifications to be at a competitive advantage. This finding is consistent with some Arab studies such as Tayyara et al. (2000), Sharif (2005) and Alhaj (2006) and with some western studies such as Quazi et al. (2002), Fuentes et al. (2000) and Santos and Escanciano (2002). Also, Zain is owned by a Kuwaiti company and has 28 branches in Asia and Africa, while Orange is owned by a French company and has more than 122 branches worldwide. These companies want their branches to be under the same standardised quality management system so that they all follow the same procedures for work and to try to expand to more countries around the world. This finding is consistent with some Arab studies such as Tayyara et al. (2000), Sharif (2005) and Alhaj (2006) and with some western studies such as Quazi et al. (2002), Fuentes et al. (2000) and Santos and Escanciano (2002).

On the other hand, the responses from interviewees at Xpress, which had not sought ISO 9001:2000 certification, indicate that this reluctance arose because there was no guarantee of benefits from implementing it. Other respondents stated that the firm had its own quality system which was better than ISO 9001:2000. Some also mentioned that the company was hoping to receive the King Abdullah II award for quality, derived from the American Malcolm Baldrige award. The respondents were not aware that QMS implementation could help the company to pursue continuous improvement, or that it could compete in local and international markets through obtaining ISO 9001:2000. This is reflected in the fact that Xpress has less than 3% of the mobile market share. Further, there were some employees who did not know the real reasons for obtaining ISO 9001:2000 and this means that there was misunderstanding and an incomplete awareness of the importance of ISO certification and of its benefits. Similar findings were made in some Arab studies such as Tayyara et al. (2000), Sharif (2005) and Alhaj (2006) and in some western ones such as Quazi et al. (2002), Fuentes et al. (2000) and Santos and Escanciano (2002).

Among the many other reasons for seeking ISO 9001:2000 certification mentioned in the literature review but not by the case study interviewees were:

- To minimise product or service cost (Santos and Escanciano, 2002; Fuentes et al., 2000).
➢ To motivate employees and to improve their participation (Fuentes et al., 2000).
➢ To improve productivity (Al-Khalifa and Aspinwall, 2000; Fuentes et al., 2000; Inaki et al., 2006; Tayyara et al., 2000).
➢ To improve communication inside and outside the organisation (Wiele et al., 2001; Fuentes et al., 2000; Inaki et al., 2006; Bayati and Taghavi, 2007; Hele, 2002).
➢ To increase the awareness of quality issues throughout the organisation (Fuentes et al., 2000).

5.1.2 Benefits of certification
The case studies of the two certified companies revealed some perceived benefits of certification. The researcher believes that the justification for seeking certification was based largely on its benefits and their effects on the organisation’s future. Such benefits will be realised if the implementation of ISO 9000:2000 is defined and linked to the objectives of the organisation.

Data gathered at the two certified companies suggests that the first main benefit from obtaining ISO 9001:2000 was to maintain continual improvement. Interviewees felt that ISO 9001:2000 was a stage in the continual improvement of the company and a step towards excellence. Among the benefits regarding CI which they identified were the documentation system, the standardisation of working procedures, efficient management reports, professionalism of the work, improved the employees’ skills, change the employees’ cultures, increased transparency of interdepartmental processes, more training courses and meetings at the three management levels. All these benefits help the company to go further in other quality certifications. This finding is consistent with some studies which have been detailed in the literature chapter of this study, such as Gotzamani and Tsiotras (2002), Magd (2006), Bayati and Taghavi (2007), Sharif (2005), Alhaj (2006), Quazi et al. (2002), Arauz and Suziki (2004), Poksinska et al. (2006), Santos and Escancano (2002), Bhuiyan and Alam (2005), Van der Wiele et al. (2005), Casadesus and Karapetrovic (2005) and Corbett et al. (2005).

The second benefit identified by respondents was improvements in management, such as using statistical methods in measurements, monitoring and analysing progress, using a scientific approach to solving problems, reducing centralised decision making, institutionalising the work and enhancing internal communication. These were in turn
said to be reflected in improvements in working procedures. This finding is similar to those of some Arab studies such as Yahya and Goh (2001), Alhaj (2006) and Bhuiyan and Alam (2005) and to some western studies such as Quazi et al. (2002), Arauz and Suzuki (2004), Sauvage and Aptel (2004), Bhuiyan and Alam (2005), Van der Wiele et al. (2005) and Poksinska et al. (2006).

The third benefit was customer satisfaction. Interviewees felt that gaining certification would improve the image of the company and make it easier to attract customers. Some respondents added that if customers were satisfied this would lead to customer loyalty, which is the main aim of companies. This finding is in agreement with some Arab studies such as Bhuiyan and Alam (2005), Sharif (2005), Alhaj (2006) and Vouzas and Gotzamani (2004) and with some western studies such as Quazi et al. (2002), Arauz and Suzuki (2004), Naveh and Marcus (2005), Casadesus and Karapetrovic (2005) and Sauvage and Aptel (2004).

The fourth benefit related to local and international markets. Respondents drew attention to the very competitive mobile market in Jordan, where each company felt that there was a competitive advantage to better quality certification. This finding is consistent with some Arab studies such as Tayyara et al. (2000), Sharif (2005) and Alhaj (2006) and with some western studies such as Quazi et al. (2002), Fuentes et al. (2000) and Santos and Escanciano (2002), Bhuiyan and Alam (2005) and Van der Wiele et al. (2005).

The fifth benefit was improved profitability. Some responses indicated that implementing ISO certification had increased company profitability by increasing the number of customers and reducing the cost of the services and products. They explained by mentioned that its 'return of investment'. Similar findings were made in studies such as those by Quazi et al. (2002), Koo et al. (1998), Praxiom Research Group (2006), British Accreditation Bureau (2007), Corbett et al. (2005), Gotzamani and Tsiotras (2001), Santos and Escanciano (2002), Arauz and Suzuki (2004), Goetsch and Davis (2003), Bhuiyan and Alam (2005), Casadesus and Karapetrovic (2005) and Naveh and Marcus (2005).

Other benefits from obtaining ISO 9001:2000 certification, mentioned in the literature review but absent from the case study findings, include:
Improved internal communication leading to reduced product or service costs (Beskese and Cebeci, 2001).

Motivation of employees (British Accreditation Bureau, 2007; Gotzamani and Tsiotras, 2002; Poksinska et al., 2006 and Sampaio et al., 2009).

Greater opportunity for export (Gotzamani and Tsiotras, 2002).

5.2 Barriers to the implementation of ISO 9001:2000 certification
The key element of this study was to investigate and identify the barriers to the implementation of ISO 9001:2000 in private mobile companies in Jordan. These are divided into three main categories: barriers identified in the literature and found in the Jordanian case studies, those referred to in the literature but not found in the case studies, and those found in the case studies but not identified during the literature review.

5.2.1 Barriers common to the literature review and the case studies

5.2.1.1 (A) Lack of top management commitment
From the viewpoint of the interviewees, top management commitment was one of the most important barriers to ISO 9001:2000 certification. They all agreed that obtaining ISO certification was a top management decision. While cases A and B had obtained ISO certification, respondents in case study D reported that there was no top management commitment yet to implementing a QMS or to seeking ISO certification and those in case C referred to a decision by top management to start seeking ISO certification in 2009. This data is consistent with some other research indicating that lack of top management commitment is a barrier to implementing ISO 9000 in various countries. For example, Tayyara et al. (2000), Al-Zamany et al. (2002) Fuentes et al. (2000), Amar and Zain (2002) and Sampaio et al. (2009), which have been detailed in the literature chapter of this study.

Respondents in case study A explained that the leadership was responsible for decisions to direct the organisational quality policy and change it towards implementing ISO from 2000, while in case studies B and C the quality policy was found to have changed in 2004 and 2007 respectively. By contrast, evidence gathered in case study D shows that the leadership did not feel that the company could gain any real benefits from obtaining ISO 9001:2000 certification, giving current priority instead to making profits, to
expanding its market share in Jordan and to opening new branches in other Arab countries. These findings match those of some studies reported in the literature, that lack of leadership and of organisational direction were barriers to ISO 9000 implementation (Withers and Ebrahimpour, 2001; Chin et al., 2000; McCullough and Laurie, 2005; Quazi et al., 2002; Fuentes et al., 2000).

The researcher concludes that leaders in case studies A and B did more that just talk. They established a quality policy and objectives, and then prepared for ISO certification by providing the resources and the systems needed. They also provided direct and indirect support to facilitate the establishment of the quality system, in addition to building good communication among the employees in the company. This finding is in line with those of Amar and Zain (2002) and of Awan and Bhatti (2003), as well as with the requirements of ISO standards (ISO, 2007). It was also implied in case studies A and B that top management had conducted management reviews at planned intervals, to assess the continuing suitability, adequacy, performance and effectiveness of ISO certification. This finding is consistent with Van der Wiesle et al. (2001), Al-Khalifa and Aspinwall (2000) and Wiele et al. (2001).

However, some researchers mentioned other aspects of top management commitment which were not found in the present study. For example, Alhaj (2006) refers to a problem that existed among the top management in the UAE: they were committed to quality implementation in the beginning, but after a while they realised that ISO 9000:2000 required an ongoing commitment, at which point most of them lost interest in continuing the implementation of the system. A study conducted by Bhuiyan and Alam (2005) also showed that top management commitment was not reflected and communicated from managers down to the lower levels. They argue that top management involvement is essential in order to measure and improve quality, offering commitment in terms of time, budget and personal involvement. Finally, Sharif (2005) reports that in some Libyan companies, the managers did not fully understand their role as leaders in the implementation process and that corporate structure tended to keep a distance between them and their employees regarding the exchange of QMS information.
5.2.1.2 (B) Poor organisational culture

Respondents in case study A indicated that the organisational structure, the responsibilities and the job specification were clear to employees, while a middle manager in case study B stated that employees' interactions and behaviour were based on the company's norms, rules and climate.

Further, although the organisational culture of each company was generally assessed positively by respondents in the case studies, some interviewees in case study B reported that there were various cultures in the company, such as different religions, ethnicities, attitudes and opinions. These various cultures needed to be accepted to maintain continuous improvement and achieve corporate goals. This finding is consistent with the assertion of some studies that have been detailed in the literature chapter of this study, such as Maull et al. (2001), Al-Haj (2006) and Bijlsma-Frankema (2001). Other researchers who have identified organisational culture as one of the barriers to the implementation of ISO 9001:2000 include Claver et al. (2000), Pheng and Alfelor (2000), Al-Zamany et al. (2002), Awan and Bhatti (2003), Fuentes et al. (2000), Al-Khalifa and Aspinwall (2000), Sharp et al. (2003), Tayyara et al. (2000), Najmi and Kehoe (2000), Yahya and Goh (2000), Glover and Siu (2000) and Basir (2008).

Some shop-floor employees in the four case study organisations explained that some top and middle managers would not consider their ideas and suggestions or even that they would not allow their involvement in important changes in the company such as implementing QMS and ISO certification. This individualism of top and middle managers was seen as a barrier to the effective implementation of the ISO in particular and QMS in general. This is consistent with the finding of Davies et al. (2007).

Moreover, it can be remarked that employees in case studies A and B felt uncomfortable because they saw the ISO system as an aspect of the control that managers have over their work lives. They explained that there was no freedom of speech and no flexibility in the hours of work. This finding matches those of Cartwright (2007), Venkatranm (2007), Srikanthan & Dalrymple (2007) and Davies et al. (2007).

On the other hand, some organisational barriers mentioned in the literature were not observed in the case studies. For example, Maull et al. (2001) argue that the successful
implementation of a QMS requires an assessment of the organisational culture and the implementation of an integrated process for change in organisational behaviour. Najmi and Kehoe (2000) state that the common cultural barriers are a poorly developed organisational structure and difficulty in cultural change. Twati and Gammack (2006) and Claver et al. (2000) add that the bureaucratic culture causes many problems for organisations, such as weak employee involvement, insufficient investment in technology, hierarchical levels, inappropriate planning, inappropriate business alliances and not being able to adapt to the market. Corbett and Rastrick (2000) suggest that in order to implement quality programmes effectively, the organisational culture should be moulded to the quality method. It is important that this occurs during the initial implementation of the quality programme, because the culture's initial experiences of the programme will affect future responses to quality initiatives. That is, organisational culture impacts on quality from the conception of quality within the organisation. Al-Haj (2006) identifies a cultural barrier in the UAE called wasta, which he describes as a social relation between two persons to get the work done. This phenomenon, based on social relations and influence, can disrupt the normal work processes in an organisation so that they no longer meet the corporate quality standards. Davies et al. (2007) found that implementation of ISO certification did not help employees' self-improvement, nor did it lead to professionalism at work. Finally, Samson et al. (2009) who identified the re-engineering as the main barriers in the organisational culture to implementing the ISO in non-profit companies in UK.

5.2.1.3 (C) Lack of understanding and awareness of ISO 9001:2000 standards and requirements

For Chin et al. (2000), ISO 9000 awareness occurs when the staff of an organisation understands the management's quality policy and the current status of the ISO 9000 quality system in the organisation. The findings in case A indicate that the top and middle managers had a good level of knowledge about ISO 9001:2000 requirements and implementation; in cases B and D the top managers had a good level of knowledge while middle managers had a moderate level; and in case C the top managers had moderate knowledge and the middle managers a good level of knowledge of ISO 9001:2000. However, the shop floor employees in the fourth case study had little knowledge regarding ISO 9001:2000 requirements and implementation.

The researcher concludes from his observations that some top and middle managers in case studies A and B had educated themselves on the ISO standard requirements and
principles before taking action to seek certification. The researcher also observed that some textbooks, newsletters and codes of practice concerning ISO standards were kept by the company. The researcher examined some documents in case studies A and B which contained the regulations sent by top and middle managers and by the respective quality departments to employees at different levels to facilitate the following of procedures towards ISO 9001:2000 certification. Moreover, in case studies A and B, the top management's strategic plan for the quality journey started by approving the implementation of ISO, then fulfilling the requirements, nominating an expert to run the quality department, and finally giving authorisation to overcome barriers and maintain certification.

However, the researcher observed that the staff felt that they needed more training courses and workshops regarding ISO requirements, as well as refresher courses covering emerging issues on the ISO standards and explanations of the principles of ISO, because some processes were not clear to some employees. Some respondents expressed annoyance and said that they felt that they were forced to do the work of the quality section in their departments. This finding is consistent with Chin et al. (2000), Al-Zamany et al. (2002), Awan and Bhatti, (2003), Ahmed et al. (2005), Al-Haj (2006) and Heras (2008).

Some other researchers which have been detailed in the literature chapter of this study support this view, noting that a lack of understanding of the requirements is a barrier to implementing ISO 9000 in certain countries. For example, Sharif (2005), Beskese and Cebci (2001), Tayyara et al. (2000), Balzarova et al. (2002), Withers and Ebrahimpour (2001), Zeng et al. (2007), Park et al. (2007), Basir (2008) and Sohel and Terziovski (2000). In addition, other researchers have identified a lack of understanding of ISO 9000 standards and requirements as a barrier to implementation include Sharp et al. (2003), Curry and Kadasah (2002), Al-Khalifa and Aspinwall (2000), Chin et al. (2000), Yahya and Goh (2001) and Cebeci & Beskese.

On the other hand, ISO 9001:2000 was implemented in companies A and B in English; the training courses, the external and internal evaluations, the quality reports, the newsletter, the textbooks and the internal communication between employees were all conducted in English, because the majority of employees knew English well. The mobile sector is one of the most advanced in Jordan and has a very good salaries and
reward system, so that income is relatively high. Companies are therefore able to recruit only candidates with a good level of English in addition to their education, skills and experience. This helps in improving the sector and in understanding the quality requirements. Moreover, the educational level of English language in Jordan is of a high standard, whether in schools or universities. Indeed, many private schools and universities have a particular focus on teaching different languages, particularly English, which is the second language of Jordan. The researcher reviewed many documents as part of the case studies and found that most were written in English, including minutes of some meetings, all internal auditing and some correction activities. He also observed that a majority of the communication among employees was in English, whether orally or written, through the internal computer network.

On the other hand, some researchers have identified poor knowledge of English among employees as a barrier to the implementation of ISO 9001:2000, for example, Al-Haj (2006), Sharif (2005) and Bhatti & Awan (2003). In the same context, Rohitratana and Boon-itt (2001) outlined that an availability of materials or manuals related to new standard in English language in a country where its formal language is not English can prevent the understanding and implementing of the new standard.

5.2.1.4 (D) Lack of resources requirements

From the researcher's point of view there were no financial or physical resources in case studies A or B dedicated to the implementation of ISO certification. However, in case study C the top management put the budget requirement for implementing ISO in the 2009 annual plan, while in case study D the top management had decided not to spend any further budget allocation on quality management at the time of the study. It can be deduced from the responses in the four case studies that financial resources were seen as the foundation for implementing a QMS and there was agreement among the respondents that poor finances could be a barrier to ISO certification. This finding is in line with those of other researchers which have been detailed in the literature chapter of this study including Fuentes et al. (2000), Najmi and Kehoe (2000), Al-Haj (2006), Amar and Zain (2002), Al-Zamany et al. (2002), Tayyara et al. (2000), Glover and Siu (2000), Tannock et al. (2002), Al-Khalifa and Aspinwall (2000), Awan and Bhatti (2003), Sharif (2005), Boiral and Roy (2007) and Basir (2008).

Human resources were also found to be essential; middle managers in the four case studies agreed that without adequate staffing it would be impossible to implement any
QMS. One middle manager from company A explained that implementing ISO began by establishing a quality department and selecting an expert to run it. Next, a strategic plan was drawn up, specifying the staff and time needed to implement it. One top manager interviewed in case study B stated that before they started the implementation of ISO certification they received a full report from the quality manager on the human resources needed, then restructured the organisation through job descriptions and specifications in order to fill the gaps needed before hiring any new staff. However, a middle manager in case study C stated that there were only three employees in the whole quality department, making it impossible to implement any QMS for the whole company. Therefore it was decided to increase the number of employees in the quality department as well as to hire suitable employees in other departments before the start of the ISO certification process in 2009. In case study D, the middle managers stated that their company was not prepared to seek ISO certification because it had no quality department to follow the necessary procedures, in addition to limitations in the human resources needed to obtain ISO certification. As for the employees at the shop-floor level, respondents in all four case studies pointed out that the procedures to be followed regarding ISO had required or would require extra staff to work on them, given that existing employees were fully occupied. This finding agrees with Fuentes et al. (2000), Boiral and Roy (2007), Beckford (2002), McAdam & Fulton (2002) and Magd & Curry (2003).

Moreover, Al-Haj (2006) refers to the problem of wasta, which is the reliance on social relations between two persons to get the work done. This can influence and disrupt the normal work processes in an organisation. Sharif (2005), Al-Haj (2006) and Mohammad (2005) agreed that the reason for the existence of this phenomenon is the strength of social relationships within the same family or among people in the same region. However, the researcher did not observe this in the case study companies. Middle managers in case studies A and B said that because their companies were foreign owned and the executive managers were not Jordanian, appointments were made on merit and there were monthly evaluation reports for the first three months on each new employee regarding his or her efficiency and whether he or she should continue to be employed. In addition, there were annual reports which referred to employees’ ability to do the work and on which renewal of the contract of employment would depend. Similarly, one middle manager in case study C explained to the researcher that the company appointed the majority of the staff according to an
assessment of their performance in their previous jobs, then would give them a three-month contract followed by annually renewed contracts. This point concerning evaluation was confirmed by the employees at shop-floor level in the four case study companies, who mentioned this during their interviews, especially with reference to customer satisfaction. The researcher reviewed some documents regarding recruitment and annual reports, allowing him to conclude that the question of social relations was not a barrier to the implementation of ISO 9001:2000 in the companies examined in the case studies.

Other researchers have identified human resources as a barrier in particular countries, such as Al-Zamany et al. (2002), Amar and Zain (2002) and Sharif (2005).

Insufficient technological resources also restricted the ability of companies C and D to undertake ISO 9001:2000 certification. In company C the top management was convinced that to implement ISO standards the company would require a reasonable technology infrastructure, so in the 2009 budget sufficient financial resources were dedicated to the technological system required for implementing ISO 9001:2000. By contrast, the top managers of company D were convinced that the current technology was adequate for the quality management procedures used in the company, and because there was no intention to implement ISO standards in the near future, there was no further requirement to improve the technology. This finding is in line with reports in the literature that insufficient technology is a barrier to the implementation of ISO certification, such as Al-Zamany et al. (2002), Sharif (2005), Boiral and Roy (2007), Awan and Bhatti (2003) and Al-Haj (2006).

5.2.1.5 (E) Limited training and education programmes

The importance of training and education programmes for employees of organisations that aim to obtain any QMS such as ISO 9001:2000 was identified in the four case studies. The researcher was aware that there was an annual training programme in each of the four companies. One top manager in case study A said that "all employees in the company should have some training courses in a continuous programme". He explained that this applied to any employee, whatever his or her length of experience or management level. This view was supported by a middle manager in case study B, who confirmed that the issue of training courses was very important regarding the improvement of employees' skills and their conformance with actions leading to improvement of the organisation. Similar findings are reported by authors who have

The training plan for 2007 in case A showed that there were on average three training courses for each member of staff, while in case B there were 104 training courses in quality and 20 in management. However, in case study C, although there were three training courses for each member of staff, few of them were high in quality, and the top management had promised to arrange more in the second half of 2008 and in 2009, especially since they wanted to obtain ISO certification. Finally, in case study D the responses at all three management levels indicated that employees needed some training courses, especially in order to change employee culture before beginning the ISO certification process.

The responses in case studies A and B indicated that training courses were scheduled according to internal auditing reports, quality management reports and middle managers’ reports concerning quality topics. This finding is in line with the suggestion of Bhatti & Awan (2003) and Berggern et al. (2001).

Middle managers in case studies A and B explained that training courses were held inside and outside Jordan. These courses and workshops dealt with quality in general and ISO in particular, covering such topics as statistical process control, continuous improvement, internal auditing and ISO requirements. The researcher nevertheless concluded from his observations that the staff felt that they needed more training courses and workshops in customer satisfaction. The literature contains examples of other researchers’ recommendations regarding suitable topics for further training programmes in the organisations studied, for instance, Antoni et al. (2002), Sun et al. (2000), Val et al. (2003), Sharif (2005) and Wealleans (2003).

5.2.1.6 (K) Lack of clear vision and mission
Vision is an essential element in organisational success (Al-Haj, 2006). Responses by interviewees in the case studies indicated that top managers in companies A, B and C had a clear vision and mission for implementing ISO certification, starting with
acceptance of responsibility, setting policies and giving the staff and stakeholders a clear picture of the reasons, benefits and how they could implement the system. The top managers in these cases had a clear picture of their future organisation. In addition, some indicated that the decision to seek ISO certification was made outside Jordan, because the majority of shareholders were foreign investors. In case study D, the lack of a clear vision of why, how and when the company could obtain ISO certification was a major barrier to the acquisition of certification. One top manager explained that the company's priority was profit and that the establishment of a quality system was seen as an obstacle to making a profit. These findings are in line with Balzarova et al. (2002), who underline the importance for the implementation of QMS in an organization of the clear vision and mission of its top management and of critical success factors, giving the staff and stakeholders a clear picture of their future organisation.

Other researchers have also found that lack of vision and mission was a barrier to implementing ISO 9000 which have been detailed in the literature chapter of this study, for example, Tayyara et al. (2000), (Balzarova et al., 2002), Sharif (2005), Quazi et al. (2002), Al-Haj (2006) and Basir (2008).

5.2.1.7 (M) Failure to address customer satisfaction
From the researcher's point of view, the four case study organisations had made and were making great efforts to satisfy their customers. For example, they had erected sufficient antenna masts to provide a communications network with 99% coverage of Jordan. They had also subdivided the Jordanian mobile market so that they could present suitable special offers to business people, students, private companies and government institutions. In addition, several meetings took place during the year with all levels of customers, such as working dinners with business people and official meetings with authorised people in private and public companies. They had hotline services to handle customers' complaints, conducted surveys, encouraged suggestions and sponsored many social events every year in order to learn more about customers' needs. They also used statistical tools such as Six Sigma to measure customer satisfaction. Finally, they were planning to continue opening more branches, shops and central points to facilitate access for their customers.

One top manager from case study A stated that his company linked its customers in Jordan with those in other Arab countries where it had branches, such as Saudi Arabia, Iraq, Bahrain and Sudan, in addition to completing the building of an integrated system.
in the organisation, such as appropriate infrastructure, through a good management information system, good technology devices and appropriate staff, which allowed the company to satisfy its customers. Also on the subject of integration, a top manager in case B mentioned that his group comprised three telecommunication companies under one umbrella, providing fixed line, internet and mobile services. This made it the sole integrated operator in Jordan and provided an advantage to the customer, who could buy three products in one place and so could save time and money. Another top manager claimed that his firm had an advanced computerised monitoring system for customer complaints starting from the first step of complaint through calls or forms to the final step of solving problems, which gave the customers confidence in the results. In case study C, one middle manager claimed that the company provided opportunities to the customers who recent university graduates to obtain valuable practical experience. Then the company employed these customers in various departments and locations on a range of tasks which lead to customer satisfaction. He added that in the last year, 18 graduates were offered permanent posts. Another middle manager mentioned that Umniah had been granted WiMax and UMAX licences to provide wireless internet services, which allowed the company to satisfy customers by offering a full package of mobile and wireless network services.

The researcher observed during his visits to the companies that these efforts had contributed to an increase in customer satisfaction and so to greater participation in the mobile market, which had reached 93% at the end of 2008. These steps also match the requirement of ISO 9001:2000 that top management should determine customer needs and expectations, which should then be adopted as requirements. Communication of the importance of meeting customer requirements throughout the organisation and the awareness of customer requirements must be further promoted by the management representative. Management must communicate with customers to discuss product orders, contracts or requirements. Customer feedback must be used in management meetings to review current performance and seek improvement opportunities. Further, the measurement of customer satisfaction is an important factor in the determination of the effectiveness and implementation of the QMS (ISO, 2007).

As for the employees at the shop-floor level who were interviewed in the four case studies, they were of the view that customer satisfaction was the most important point in the fieldwork and that their efforts to satisfy the customer would never be adequate.
because there would always be new needs every day. One employee explained: "We cannot specify the customer's needs. Their needs vary from one stage to another. Sometimes they want quality without attention to cost and sometimes they are looking for cost without considering the quality". This is consistent with the findings of Quazi et al. (2002), Najmi and Kehoe (2000), Fuentes et al. (2000), Tayyara et al. (2000), Al-Zamany et al., 2002) and Casadesus and Karapetrovic (2003), which have been detailed in the literature chapter of this study.

5.2.1.8 (N) Limited employee involvement, authority and empowerment
The top and some middle managers in the four case study organisations asserted that employees at different levels had enough authority, involvement and empowerment, citing as evidence of this the extent of teamwork, the existence of project teams, cross-functional working and flexibility in hours of work. Responses from managers in all four case studies indicated a belief that involving more top and middle managers would make employees on the shop floor more involved in ISO certification. They believed that greater employee responsibility would lead to better use of time and resources, hence to improved profits and wider market opportunities. This finding is consistent with the belief of Sun et al. (2000), Val et al. (2003) and Torre et al. (2001).

On the other hand, some middle managers in the four case studies explained that while some empowerment and authority was granted to staff at different levels, this was limited to certain issues and in some departments only. In particular, it was said that making any statement or information about the company required the written permission of top management. The shop-floor employees in these cases agreed that they had insufficient empowerment or authority to do certain work without authorisation from their bosses. Shop-floor employees in cases B and C added that their suggestions were not considered, they were unable to express their feelings and sometimes there was no free speech at company meetings. In addition, the researcher had to wait more than two weeks to gain permission for his interviews in case studies A and D and to make the necessary preparations. This finding is in line with some researchers who have identified lack of employee involvement as a barrier to implementing ISO 9000 and have been detailed in the literature chapter of this study, for example, Park et al. (2007), Fuentes et al. (2000), Awan and Bhatti (2003), (Dickenson et al., 2000), Sharif (2005) and Al-Haj (2006).
5.2.1.9 (P) Poor consultants and quality certification bodies

Middle managers in case studies A and B mentioned that the initial study for obtaining the ISO certification was done by an external consultancy and that implementation of the standard was guided by the quality department and the external consultant. They explained that the quality department understood the organisational policies, procedures and work culture and that this helped the external auditors to understand the existing processes in the company and to place them on a quality-oriented platform. The respondents added that this was done because these companies did not have enough skilled personnel knowledgeable in ISO 9001:2000 standards. They added that the consultant companies helped in awareness training and gave guidance on how the company could implement the certification in easier and faster ways. This finding is supported by some authors that have been detailed in the literature chapter of this study. Sharif (2005), Al-Haj (2006), Fuentes et al. (2000), Augustyn & Pheby (2000) and Berggern et al. (2001).

The quality managers in case studies A and B stated that their companies had contracted with foreign agencies to provide third party certification. The choice of the foreign agency came from the headquarters of these companies outside Jordan, as they had dealings with them in other branches around the world. The quality manager in case study A added that he had been dealing with a local consultation company but that this process had led to a reduced audit period which reduced the quality of the audits and that the initiative was very poor, as the consultants did not document and implement the system properly. He added that they could not rely on an external consultant alone to be effective. The quality manager in case C observed that competition among the many local consultants companies led to them quoting low prices to improve their businesses, which led to low quality ISO 9001:2000. In his opinion, a good consultancy was required to help the company to achieve its aims. This finding is in line with other researchers such as Costa and Lorente (2007), Zeng et al. (2007), Alhaj (2006), Sharp et al. (2003) and Fuentes et al. (2000).

Moreover, some middle managers in case studies A and B reported that after the ISO certification had been granted, the major responsibility for its maintenance fell on the quality departments in their companies. One middle manager in case A complained that the frequency of internal audits was ad hoc, which meant that the firm could not rely on
the external consultant but had to take responsibility itself. This finding is in line with those of Magd (2006) and Magd (2004).

5.2.1.10 (Q) Poor in the organisational management processes

Responses recorded in case studies A, B and C indicate that top managers were aware of the QMS processes and had plans in place for the process of implementing ISO 9001:2000. The respondents stated that they had started the quality journey by implementing their own quality processes through their quality departments. The researcher reviewed some documents indicating that top managers in these companies put in their budgets all the requirements needed to implement QMS in general and ISO in particular, and that they put in place all the facilities required to implement the certification smoothly. This is consistent with the finding of Bamber et al. (2002), Stanies et al. (2000) and Val et al. (2003).

One important issue in the implementation of ISO certification is the understanding of the processes, i.e. how and why the company wants to implement the certification. It can be remarked from the findings that the four companies under study implemented or intended to implement a quality system to improve their work. The researcher reviewed some documents showing that case A already had ISO 9000:1994 before obtaining 9001:2000 certification. Case B had ISO 9001:2000 for its fixed line and internet arms before it obtained it for the mobile business. As for company C, it had two international quality certificates—the Best Program for the Transformation of Business and the Global Initiative Award for Human Resources—before obtaining ISO 9001:2000 in 2009. Finally, company D intended to implement the European quality system and the King Abdullah II quality award. Middle managers in cases A, B and C stated that working under ISO procedures was not difficult; the real problem was the conformity between the departments' work and ISO procedures. One middle manager in case A explained that "it depends on the company's aim in implementing ISO – is it to improve the work or for the marketing image?" Another middle manager, in case C, stated that "sometimes the paperwork for ISO resulted in some delays in the departments' work".

On the other hand, some employees at the shop-floor level in cases A, B and C said that they did not feel that their bosses were involved in implementing ISO for the improvements, because the records were updated only during the auditing sessions, while managers sometimes paid attention to implementing the work without any consideration of ISO requirements. Some other shop-floor employees said that they had
not known the benefits of using quality standard procedures in their work. "We usually discussed our work in departmental meetings to decide the best procedures for doing our work before the quality standards came in; so we felt that the quality procedures were for quality certification more than for quality of work".

This is consistent with Bamber et al. (2002), Sharp et al., (2003), Rohitratan and Boon-itt (2001) and Nwankwo (2000) which have been detailed in the literature chapter of this study.

Another important issue was how decisions were made and the ease, flexibility and speed of this process. Top and middle managers in the four case studies reported that they had started the quality journey by establishing their own quality system, by reviewing the principles of some quality management systems, then conducting some training courses regarding how and why they wanted to implement these systems, followed by some internal audits. They then established some cross-functional procedures and finally set up work procedures and instructions to establish their own quality systems. Moreover, one middle manager from case A mentioned that the quality management system had helped the company to do its work with minimum effort by clarifying the responsibilities and authority of the staff. Another middle manager from case B asserted that decentralisation was the key factor in the smooth implementation of ISO certification, while two middle managers in case C agreed that restructuring their company made it flatter, which accelerated the process of decision-making and made it more systematic, avoiding individualisation as much as possible. This is consistent with Bamber et al. (2000) and Berggern et al. (2001). While other researchers have made more or less the same points, for example, Boiral and Roy (2007), Costa and Lorente (2007), Santos and Escanciano, (2002), Vouzas and Gotzamani, (2004), Al-Haj (2006) and Sharif (2005).

5.2.1.11 (R) Resistance to change
There tends to be resistance to change in any organisation (Bamber, 2000) and this was found to be true of the case study organisations in this research. Some of the staff in case study B were very stubborn and resistant to change because of their background, some having worked in the armed forces before joining company B, and others having worked at different levels in different sectors. They appeared not to want the challenge of learning new skills, because they felt that their pay or benefits might be reduced or that they might lose their jobs. Employees were afraid of the unknown, of losing skills
and status, and of not being able to cope. This finding is consistent with those of Raymond (2002) and Mohamed (2005).

The respondents in this study indicated that resistance to change occurred when middle managers felt that they were likely to lose influence over decision-making. Some shop-floor employees explained why they wanted to escape and to avoid taking responsibility, because it might cause them trouble in their work, adding to their workload, sometimes without recognition, and they were convinced that quality was not their responsibility, but that of the quality department. This finding is consistent with those of Fuentes et al. (2000), Raymond (2002), Sharif (2005) and Al-Haj (2006). Another finding was that some employees at different management levels in case study D felt that ISO certification was not important because they would not obtain any benefits from it. This is in line with the work of Sharif (2005) and Raymond (2002).

Other researchers who have identified resistance to change as a barrier to implementing ISO 9000 in particular countries which have been detailed in the literature chapter of this study, include Amar and Zain (2002), Fuentes et al. (2000), Curry and Kadasah (2002), Tayyara et al. (2000), Balzarova et al. (2002), Dickenson et al. (2000), Low and Ling Pan (2004), Sharp et al. (2003), Al-Zamany et al. (2002), Al-Khalifa and Aspinwall (2000), Beskese and Cebci (2001) and Withers and Ebrahimpour (2001). While some other researchers have also specified common reasons for people to resist change which were not noticeable in the four case studies reported here. For example, Al-Khalifa and Aspinwall (2000), Basir (2008), Sharif (2005), Raymond (2002) and Al-Haj (2006)

5.2.2 Barriers referred to in the literature but not found in the case studies

5.2.2.1 (F) Lack of motivation
Costa and Lorente (2007) found a positive relationship between the managers’ motives for adopting ISO 9000 certification and business performance. In the same context, Sampaio et al. (2009) mentioned that there is an interesting relationship between ISO 9001:2000 motivation and the corresponding benefits. While Sun et al. (2000) suggest that a reward system would motivate employees to be actively involved in the ISO 9001 programme.
Interview responses indicate that the top managers in the four case study companies believed that their employees were viewed as internal customers. Satisfying them would make a significant contribution to their jobs, make them more loyal and allow them to be retained longer. They added that working must be enjoyable for all staff members, to make sure that the work will be done correctly and well. One of the important factors in motivating employees is the reward system. The researcher examined documents concerning the reward systems in these companies and listing some salaries, which indicated that these were among the best reward systems in the country. For example, one top manager from case study C mentioned that the company was trying to satisfy employees in several ways, such as providing annual trips outside Jordan, holding an annual event for rewards, and providing an opportunity for the employees to complete their education in postgraduate degrees at home or abroad. Middle managers in companies A and B mentioned some other ways to satisfy the employees, such as providing refreshment facilities and monthly trips inside Jordan, involving more staff in ISO procedures and auditing, and dividing responsibilities through maximum employee involvement.

Furthermore, a lack of motivation has been identified by some researchers as a barrier to implementing ISO in certain countries which have been detailed in the literature chapter of this study, for example, Low and Ling Pan (2004), Sharif (2005), Al-Haj (2006), Basir (2008), Poksinska et al. (2006) and Sung and Ashton (2005).

5.2.2.2 (G) Poor internal communication among employees

Poor communication between departments is one of the most common barriers to ISO 9000 implementation, which have been detailed in the literature chapter of this study and as discussed by Sharp et al. (2003), Fuentes et al. (2000), Balzarova et al. (2002), Glover and Siu (2000), Amar and Zain (2002), Reason and Hobbs (2003) and Al-Khalifa and Aspinwall (2000). However, Al-Khalifa and Aspinwall (2000) assert that internal communication is a very important activity in business and will be so in the future. And Al-Zamany et al. (2002) refer to a lack of communication which happens because of lack of trust and the difficulty for employees in discussing issues related to quality with their managers.

From the researcher's observation, it can be concluded that there was no lack of internal communication among the employees in the case study organisations. Middle managers
who were interviewed mentioned some issues on which employees could communicate, while engaged in teamwork, at departmental meetings, cross-functional meetings, meetings with top management, auditing meetings, etc. Employees could also communicate through the internal computer networks. One middle manager in case study A explained that using the internal network saved time, effort and money, adding that the management information system department, responsible for the computer network, would back up every day all data entered via the network. Middle managers in case study B mentioned that the company canteen provided a venue for employees to communicate during the lunch break, in addition to the company’s trips, which provided a good opportunity for communication. Moreover, there were suggestion boxes in every department in the company, where employees could put their suggestions related to departmental activity or their needs. The quality manager in case study C claimed that the structure of the company was clear to the staff, including the extent of their authority and empowerment, which helped to ensure smooth communication. The company also provided free mobile calls among the employees in addition to a free handset, which was said to make the employees feel comfortable in communicating with each other.

On the other hand, Sharif (2005) reports that there was a lack of communication among employees in some companies in Libya. He added that the failure of communication on quality policy meant that staff and employees had to work without quality targets or objectives. Al-Haj (2006) also found in the UAE that there were no clear rules for interdepartmental communication, so employees considered the participation of other departments or units as an intervention in their own jobs. He adds that employees received little related information and had no clear procedures to follow.

5.2.2.3 (H) Lack of time required to obtain ISO 9001:2000 certification
One top manager in case study A stated that once the decision to implement the certification had been made, the quality manager was ordered to prepare a full report on the requirements, including the time needed to obtain certification. Other middle managers confirmed that the time required for implementation was close to the planned figure. One middle manager in case study B stated that implementation did not start until it was guaranteed enough time had been allowed to cover all aspects of work in each department. Another, in case study C, stated that "we are in the process to obtain ISO certification. We are not in a rush to get the certification by satisfying only the minimum requirements, we are seeking a quality initiative which needs a sufficient time to achieve it".

- 177 -
From the researcher’s observations and reviewing some documents in case studies A, B and C, it can be remarked that when these companies planned to implement the ISO certification, they considered carefully the time requirements, so none of them found that lack of time was a barrier to implementation.

However, Dory and Schier (2002) emphasise that an organisation needs time to successfully implement the quality methods and processes that are necessary to achieve significant improvements. Similarly, Berggren et al. (2001) note that a plan for the certification process is a way to fix time limits for the different steps. Stevenson and Barnes (2001) add that the amount of time needed to become certified is usually about a year or two, depending on the organisation’s size, current level of work quality, extent of current documentation, complexity of production process and management commitment.

Furthermore, Sharp et al. (2003), Yahya and Goh (2000), Balzarova et al. (2002), Withers and Ebrahimpour (2001), Beskese & Cebeci (2001), and Al-Haj (2006) concludes that failure to allow sufficient time for evolution was a barrier to successful implementation of ISO 9001(2000) which have been detailed in the literature chapter of this study.

5.2.2.4 (I) High cost of obtaining ISO 9001:2000 certification

Top managers in case studies A and B stated that although the cost of implementing ISO certification was high, the benefits made it worthwhile. They added that they focused on continual improvement more than on cost, so they had hired foreign consultancy companies to help them in their goal, although these were more expensive than local companies. They chose not to give specific figures regarding the total cost of ISO certification. The top manager in case C said that his company took the decision to
implement the standard because it expected the benefits to exceed the cost. By contrast, the top manager in case D was not convinced of the benefits of certification.

Further, in the present research, no interviewees identified cost as a barrier to implementing ISO 9001:2000, in contrast to the findings of many researchers in a number of countries which have been detailed in the literature chapter of this study. These include Fuentes et al. (2000), Magd (2006), Tayyara et al. (2000), Glover and Siu (2000), Casadesus and Karapetrovic (2005), Yeung and Mok (2005) and Sharif (2005).

5.2.2.5 (J) Lack of documentation system
The researcher was aware that a poor documentation system was likely to be one of the important barriers to ISO certification, but the case study findings were that the mobile companies did not appear to face this particular barrier to implementation. The middle managers who were interviewed agreed that almost all their procedures and processes worked through computer systems. One of them, in case study B, stated that "all the processes and the forms for the company’s work are processed in a computer format. Such as the decisions, the holiday sheets, the internal auditing, the annual reports and the corrective actions". The researcher observed the process for granting a holiday request for one employee. It can be confirmed that all the procedures needed to confirm this holiday were followed electronically, then the secretary printed a copy of the final approval and documented it in files. The researcher concluded that the documentation system was not a problem for the companies in this study, but might grow as a barrier.

This finding does not mean that this barrier is not important; on the contrary, ISO certification depends on documentation issues, which means that a company should keep its eye on this matter if it wants to obtain certification. ISO (2007) warns that the documentation of QMS in any organisation is affected by the complexity and interaction of its processes and its people’s competence. The ideal QMS documentation, according to the new standard, is represented in the quality manual, which records quality policy and objectives as well as listing QMS procedures, describing the interrelated processes, work instructions and other detailed documents (ISO, 2007). Wealleans (2000) adds that one of the main objectives of documenting a QMS is to keep up the practices in place so as to ensure continuity of working methods and product quality.
On the other hand, researchers have reported that a lack of documentation is a barrier to implementing ISO 9000 in some countries, which have been detailed in the literature chapter of this study, for example Yahya and Goh (2001), Beskese and Cebci (2001), Tayyara et al. (2000) and Al-Haj (2006).

5.2.2.6 (L) Limited availability of gaining information

Some researchers have found a lack of availability of information to be a barrier to implementing ISO 9000 in various countries. Examples are Amar and Zain (2002) (Indonesia), Al-Khalifa and Aspinwall (2000) (Qatar), Fuentes et al. (2000) (Spain) and Low and Ling Pan (2004) (Singapore).

The middle managers interviewed in the four case studies, by contrast, reported no problems in availability of information in their companies. One middle manager in case A explained that the company had several ways to collect information, such as suggestion and complaints boxes and the recording of calls from customers, which includes new ideas and suggestions in addition to complaints. In case B, one middle manager mentioned the internet as one source of information. He explained that the use of e-commerce techniques helped the company to save time in obtaining information related to customers, suppliers and internal customers, as well as in ordering necessary materials, compared to other means of communication. Middle managers in companies C and D mentioned the importance of investment in IT devices to integrate the information in one place and to share this information through internal communications in order to provide a better service and not to duplicate work.

In the researcher’s assessment, the availability of information was not a factor affecting the implementation of ISO 9001:2000 in the organisations studied.

5.2.2.7 (O) Limited calibration processes

Yahya and Goh (2001) estimate that 80 per cent of the failure of organisations in certification audits is caused by barriers such as improper calibration of tools and gauges. Moreover, a shortage of calibration agencies and the non-availability of quality auditors were some impediments to ISO 9000 implementation observed in Pakistan (Awan and Bhatti, 2003). Fuentes et al. (2000), Sharif (2005), Al-Haj (2006), Lee and Kim (2004), Terrence et al. (2004), Al-Khalifa and Aspinwall (2000) and Tayyara et al. (2000) are among many researchers who identify inadequate performance appraisal as a barrier to implementing ISO 9001:2000 and have been detailed in the literature chapter of this study.
In this research, although there was no evidence of an accurate and formal calibration schedule to test the instruments in the case study organisations, the responses from companies A, B and C mentioned some techniques followed, such as arranging both internal and external auditing, following the suggestions made in the reports, keeping to inspection schedules as well as having non-scheduled inspections; these were said to result in the penetration rate in these companies increasing year after year and to feedback from their customers indicating satisfaction. Moreover, some top and middle managers in cases A and B added that obtaining international certification, such as ISO 9001:2000, was seen as complementary to using statistical approaches such as Six Sigma; these statistical techniques should be understood as a method to reduce non-conformance in any aspect of the work and provide efficient quality of services. It works with a triangle of interlocking elements regarding non-conforming products, corrective and preventive action. In case study B, one top manager added that using a video camera and recording calls from customers were two good approaches to calibration, in addition to hiring an external company to make sure that the procedures followed were on the right track through unscheduled inspections. In case A the customer care department used random calls to their customers asking about the quality of services provided by the company, in addition to the feedback from the customer complaint box. The quality managers in case studies A and B stated that they followed guidelines in implementing QMS standards and for measuring employee performance, in addition to the internal and external evaluation reports, which were major elements of a valid and reliable performance appraisal system, ensuring continuous improvement.

5.2.3 Barriers identified in the case studies but absent from the reviewed literature

5.2.3.1 (S) Failure to install complete management information systems.

Respondents in all four case studies mentioned the importance of the management information system (MIS) in the work of mobile companies. One middle manager in case study A said that the main aim of the MIS was to facilitate and manage the gathering, sharing and disseminating of information. He added that the information should not be limited to local units but should be available across the departments of the company. This responsibility must be assigned to a specific department with direct links to the executive manager. A middle manager in case study B explained that the importance of the MIS section’s work was that it had to present a plan for managing
information, which was the most important issue facing the company. The person in charge of the MIS should be an expert in IT and management, and must be involved in all developments in the information area in addition to being capable of respecting the confidentiality of company information. The respondents agreed that using the MIS in their companies enhanced customer satisfaction and promoted continuous improvement, which were the two most important requirements of ISO 9001:2000.

The researcher was aware that in cases A and B there was an MIS section, while in case C it was in the process of being set up and in case D this function was exercised by the information technology department.

The respondents in cases A, B and C explained how the MIS worked in brief, but none gave details for reasons of confidentiality. They mentioned the following points:

- MIS helped to monitor the presence and absence of the staff with an indication of the reason for absence. Copies were sent daily to the human resources and finance departments to take decisions accordingly.
- It helped in following up the meetings scheduled at all levels, by storing a copy of the minutes, following up the resulting recommendations and sending copies to all concerned.
- It provided a daily backup of all communications passing through the company’s internal network to follow up and resolve outstanding problems as quickly as possible.
- There was a strong focus on following up customers’ requirements and complaints by recording all the calls received and linking all the company’s branches with video cameras and recorders (just in case B). Copies were sent daily to the director concerned for him to resolve all the customers’ problems as soon as possible.
- MIS also helped in following up and monitoring the finance department regarding the situation of the company’s financial and weekly expenses.
- Finally, it helped in monitoring the staff recruitment process, evaluation reports and training courses.

In addition, the respondents in cases A and B confirmed that the MIS section required highly technical devices. One middle manager in case C stated that the company could not start implementing any QMS unless they were aware of the importance of MIS
requirements. In addition, the middle managers among the respondents explained that procedures, authority and responsibilities should be made clear to employees, which required communications and the passing of information and data among employees to be as easy and comfortable as possible.

The researcher concluded from his observations that a good MIS led to better documentation, faster work, better financial control and communications, and similar access to common data where procedures were computerised. This finding and its detailed description are unique to the present study, as no such factor affecting the implementation of ISO 9001:2000 is referred to in the literature examined.

5.2.3.2 (T) The restrictions applying when the company was in the public sector
Although Jordan has a national standards body (JISM), there is no obligation on companies to adopt the ISO or any other QM systems. The researcher interviewed some employees in case study B who were in the same company when it was in public ownership, before moving to the private sector, which allowed it to obtain ISO 9001:2000 certification. These respondents agreed that the Jordanian authorities did not do anything to push the company to implement ISO standards or provide support regarding obtaining ISO certification, unlike some Arab countries such as Tunisia, whose government helped its organisations to become ISO certified by paying 50% of the certification fees (Sharif, 2005). The respondents mentioned three important points: human resources, finance and infrastructure.

The first factor was a shortage of skilled people knowledgeable in QMSs in general and ISO standards in particular. The certification standard needs a professional expert in this field who understands the requirements and who cares enough about the importance of continual improvement and customer satisfaction. The political structure of the country (socialism) resulted in overstaffing (featherbedding) of the organisation by an unskilled workforce. The interviewees stated that this resulted in a rise in costs of production and low levels of productivity, in addition to the difficulty of understanding the purposes and benefits of certification and of how to do the job according to the QMS. Moreover, executive managers in the company felt insecure in their positions, so did not adopt a long-term vision or consider strategic moves such as implementing a QMS. Further, no one in the company was happy to shoulder the responsibility for implementing a QMS; employees did not wish to be involved in taking decisions for fear of legal accountability and top managers found it difficult to empower them in decision making.
The second factor was that no financial support came from the government to the company to help in implementing QMS, either directly through the budget or in the form of indirect finance such as for equipment. The respondents explained that there was a restriction on the budget and that they could not exceed it unless the executive manager obtained government approval. In addition, the respondents mentioned that the lack of financial resources did not allow the company to run quality activities such as training in education, awareness and understanding programmes related to QMS and external auditing evaluation. The limited budget also made it very difficult to motivate the employees to work to quality standards.

Moreover, the lack of financial resources led to a lack of necessary infrastructure for obtaining QMS, as the middle management respondents indicated. The poor condition of its equipment made the company spend excessively on maintenance and led to low productivity, which reduced customers' confidence that the company had the ability to fulfil their demands. Finally, because there were no calibration laboratories to carry out calibration and issues related to certification, the company was able only to pay the staff salaries.

This finding that public ownership represented a barrier to the implementation of ISO 9001:2000 in one of the case study organisations is another which is unique to the present study, since it appears not to have been mentioned in the literature.

5.2.3.3 (U) The lack of ambition of employees to seek some top management posts in the company
One top manager in case B mentioned that the ambition of staff to seek senior positions was an important barrier. He added that there were some positions that had been reserved for non-Jordanians. For instance, the Executive Manager was always French, as a French company held more than 50% of the shares, and this applied to some other top management positions. Others, however, depended on the wishes of Jordanian shareholders. Similarly, a middle manager in case study A mentioned that a decision had been taken that the executive manager of the company should be from Kuwait, where more than 90% of the company's shares were held, in addition to the possibility of some top and middle managers being of Jordanian nationality, and the company now had a Turkish manager in the marketing department.
One top manager and another middle manager from companies A and B agreed that this monopoly of some top management positions led to frustration among some middle managers who aspired to senior positions, so that they tended not to support the continuous improvement of the company or to ensure customer satisfaction, which are the main requirements of ISO 9001:2000 certification. Moreover, they added that some of those managers were looking for better jobs, whether in Jordan or outside it, because they had no incentive to stay in the company.

From the researcher’s observations, it can be remarked that there were some non-Jordanians in companies A and B, especially the executive managers, but there were no documents specifying that some top and middle management posts were reserved for non-Jordanian employees. Further, the researcher could not ask the executive managers of these companies to confirm this point. This question was not raised by interviewees in case studies C or D and the researcher did not observe any non-Jordanian employees in these companies.

It can be concluded that this finding is also unique to this study, since no such barrier to the implementation of ISO 9001:2000 is mentioned in the literature.

5.2.3.4 (V) Imbalance between the working practices of the company and ISO 9001:2000 requirements.
Respondents from all four case study companies mentioned a mismatch between the long-term objectives of the companies and the requirements of ISO 9001:2000. They agreed that working under ISO procedures was not a problem, but felt that it was difficult to match these with their companies’ goals, which included working as quickly as possible, since the paperwork for ISO sometimes caused delays in their work in a competitive environment.

It can be remarked that one main issue leading to this problem was the clear vision of top and middle managers regarding obtaining the ISO certification. Some middle managers and some shop-floor employees explained that their bosses sometimes told them that finishing their work in the required time was more important than doing it according to the quality procedures. One employee in case study A said, “Our bosses told us we needed this certificate because of continual improvement – then when the customer complained or work was a little bit late, they started to change the procedures to satisfy the customer”. Some employees in case B also felt that the quality procedures
were intended for certification more than for quality work, because they had usually
done their work according to the quality procedures before they adopted the ISO
9001:2000 standards.

Another important issue was the involvement of employees in implementing the ISO
according to the procedures and requirements. Interviewees mentioned that sometimes
they had good suggestions to improve the work in compliance with ISO requirements
but the company did not take them up. Fearing for their jobs, these employees would
then do the work as their bosses wanted rather than making the necessary changes.

However, while some top and middle managers in cases A and B agreed that it was
difficult in the beginning to match their companies' work with the quality steps, they
reported that they later felt that these quality standards helped them to do the work with
minimum effort but with maximum quality. They mentioned some factors that helped
them to overcome this barrier, such as using improved IT devices, which would help to
make the work easier and to reduce the pressure on staff. Attending technical training
courses also helped employees to improve their knowledge. A third factor was keeping
in touch with the consultation companies, especially when this led to good calibration
processes, which helped in solving some managerial and technical problems. Finally,
one middle manager in case study C confirmed that the company would not hurry to
implement ISO certification until it could overcome this barrier and that it was working
to find ways to do so.

This finding concerning lack of correspondence between the companies' aims and ISO
requirements as a barrier to the implementation of ISO 9001:2000 in the case study
organisations is also unique to this study, as no reference to it has been found in the
literature.

5.3 Overcoming barriers to implementation of ISO 9001:2000 and maintenance of
certification
Overcoming the barriers to the implementation of ISO certification and maintaining it
was very important to company A, because the management review board felt that the
company would lose the certification when it wanted to renew it. If, however, it
maintained it, it would be able to look forward to obtaining another quality management
certification. Park et al. (2007) support this view and suggest that maintaining ISO
certification is essential. In addition, only a few researchers have really discussed ISO 9001:2000 maintenance issues in different organisations as a result of studies in different countries around the world which have been detailed in the literature chapter of this study, include Fuentes et al. (2000), Chin et al. (2000), Seaver (2001), Dale (2003), Wealleans (2003), Tricker (2005), Sharif (2005), Casadesus & Karapetrovic (2005), Kaur et al. (2006), Magd (2006), Mohamad (2005) Al-Haj (2006), Park et al. (2007) and Basir (2008).

In case studies A and B, the top management instructed the quality managers to maintain their ISO 9001:2000 status. Interviewees indicated that one of the procedures that were taken to maintain certification was organising many workshops and training courses for awareness, understanding and orientation, to familiarise employees at different management levels with the benefits ISO 9001:2000 certification and means of implementation. These findings are consistent with Chin et al. (2000) and Seaver (2001).

According to interviewees in case studies A and B, internal audits had been conducted regularly every 3 months and external audits every 6 months from when they had obtained ISO certification until 2008. The documents examined showed that the latest internal audit had run smoothly in the two cases, where they had similar reasons for internal audit, to ensure that work activities were in accordance with the work procedures. This reason is also given by Bhuiyan & Alam (2005), Rahman et al. (2003), Kaur et al. (2006) and Terziovski & Power (2007). Another reason for conducting internal audits in the case study companies was to make preparations for the surveillance audit. This reason is given by Yang (2001) and Basir (2008). A third reason was solving non-conformance cases, which is consistent with Chin et al. (2000) and Seaver (2001).

Other reasons for conducting the internal audit in cases A and B which are not mentioned in the literature concerned ISO maintenance, such as reviewing the documentation system, job specifications and internal communication to check all the departments procedures, to verify whether they conformed to the requirements of ISO 9001:2000 standards and to decide how to make any adjustment needed.
Respondents in case studies A and B reported that their companies focused on holding intensive meetings with and between employees at different management levels in all departments to explain the reasons for and the importance of obtaining the ISO certification, such as to monitor the achievement of the quality objectives in order to overcome immediately any barriers encountered during the implementation of ISO 9001:2000 and to maintain it. Such meetings were held annually, monthly and weekly. In case A the quality department had a weekly meeting, then a monthly report; and meetings were held between the quality manager, the deputy general manager and some middle managers to follow the quality work and to resolve non-conformance cases. Respondents in case B stated that they held scheduled meetings and when it was necessary there were also unscheduled ones. This finding is consistent with Seaver (2001) and Awan & Bhatti (2003).

The documents consulted in case studies A and B indicated that such meetings involved qualified people in addition to some teamwork groups and cross-functional teams in maintaining ISO certification, to help in solving any problems arising during the implementation of ISO certification. This is consistent with Poksinska et al. (2006) and Park et al. (2007). In case study A the quality manager cancelled a number of procedures which were believed to be unnecessary in maintaining the standards. This finding has not been corroborated in the literature.

Employee culture was another important barrier to the maintenance of ISO 9001:2000 revealed in case studies A and B. The top and middle managers mentioned the use of the carrot-and-stick methodology, whereby employees were rewarded and punished in order to change their culture towards following the required procedures. They gave examples of the reward system such as financial bonuses, letters of thanks, covering Haj and Omra travelling expenses, paying for holidays to some Arab countries, covering the tuition fees of employees' children and paying for health insurance. Some employees also suggested that to change the culture of the staff, the company should consider their suggestions and ideas. Employee culture is mentioned by Basir (2008) in reference to ISO 9001:2000 maintenance. One middle manager in case study A suggested that better internal communication between the staff in different levels in the organisation can lead to overcome and maintenance the ISO certification. While, another middle manager in company B stated that the involvement of employees in ISO certification procedures and requirements leads to changes in employee culture and will overcome resistance to
implementing ISO 9001:2000 certification. This finding is supported by Raymond (2002) and Paton and McCalman (2000) who mentioned that resistance to change can be overcome through: Communication: The management should provide information in advance to employees regarding the need for and nature of the change, and its planned timing. This can reduce fear of the unknown and change team behaviour. And Participation: Engaging the employees in developing and implementing change can reduce fear of the unknown and lead to commitment.

In cases A and B some other activities which were reported to have been conducted to maintain ISO 9001 had not been mentioned in the literature, such as work inspections. In case A, a ‘mystery shopper’ visited the company shops anonymously and unannounced to ascertain the implementation of company policy, instructions and regulations in dealing with customers and to give feedback to top management. After that, both scheduled and unscheduled time was used to inspect undeclared work, to reach a common mechanism and to achieve the goal of quality. In case B, an effective modern information system had been linked with all departments in the company, which led to effective internal communication to ensure that all staff could gain information regarding quality issues and that work activities were in accordance with the work procedures, to make preparations for the surveillance audit, to enhance staff awareness and to develop staff commitment to ISO 9001:2000.

Some barriers nevertheless remained in case study A. For example, the review of the audit report had to be approved by the top management and changes had to be incorporated into the organisation’s policies and procedures to ensure maintenance of the standards, and this took a very long time. This finding is in line with those of Sharif (2005), Al-Haj (2006) and Basir (2008). In case B a balance was sought between the achievements of the company’s goals regarding speed and competitive environments on one hand and the requirements of the ISO standardisations on the other hand. It was also difficult to combine the long-term objectives of the company, which sometimes affected the requirements of ISO 9001:2000 standards, with customer satisfaction. This finding is novel and no equivalent finding appears in the literature. Finally, in cases A and B the respondents felt that it was never possible to satisfy customers, because they need more and more every day. These findings are consistent with Chin et al. (2000) and Seaver (2001). Supporting this view, Sharif (2005) found that certified companies had not been doing enough to address customer satisfaction.
The researcher can concluded that company A and B were able to overcome the barriers to implement ISO 9001:2000 certification and keep maintenance it and they are welling to obtain other quality management certification such as EFQM and King Abdullah II.

5.4 Barriers that have emerged after an analysis of the findings of this study
Taking into consideration the findings of the empirical study discussed above in sections 5.2.1, 5.2.2 and 5.2.3, four unique barriers were found: the ambition of employees to seek top and middle management posts in the companies concerned, the restrictions applying when the companies were in the public sector, the failure to install complete management information systems, imbalance between the working practices of the companies and ISO 9001:2000 requirements. Nine other barriers were deleted from the conceptual framework: poor English language skills among employees, shortage of calibration providers, lack of motivation systems, lack of communication, lack of availability of information in the company, lack of time for implementing the ISO certification, lack of documentation, high cost of implementing the ISO certification and social relations.

Some contributors to the literature have placed the barriers to the implementation of ISO 9001:2000 standards identified in their studies into different groups such as Fuentes et al. (2000), Al-Zamani et al. (2002), Sharif (2005), And Al-Haj (2006). The researcher has benefited from these different classifications and from other barriers mentioned by other researchers, which were summarised in Table 5.3. It can been seen that organisational barriers are created by the company's management itself, internal processes and some aspects of employee culture, while the technical barriers are those which represent the difficulties that have been found by management in understanding the standard's requirements; and finally, the external barriers are those that come from outside the organisation. Thus the barriers identified in the case studies can be listed and categorised into three types as follows:

External barriers:
➢ (P) Poor consultants and quality certification body.
➢ (T) The restrictions applying when the company was in the public sector.
Organisational barriers:
- (R) Resistance to change
- (B) Poor organisational culture
- (K) Lack of clear vision and mission
- (C) Lack of understanding and awareness of ISO 9001:2000 standards and requirements
- (N) Lack of employee involvement, authority and empowerment
- (A) Lack of top management commitment
- (E) Limited training and education programmes
- (U) Lack of ambition of employees to seek some top posts in the company.
- (M) Failure to address customer satisfaction
- (D) Lack of resource requirements
- (Q) Poor in the organisational management process

Technical barriers:
- (S) Failure to install complete management information systems. Incomplete management information systems
- (V) Imbalance between the working practices of the company work and ISO 9001:2000 requirements

5.5 Classifying the barriers to the implementation of the ISO certificate
The researcher summarised in table 5.4 the classification of the barriers to the implementation of ISO 9001:2000 certification that have found from the responses of the four case study companies. This classification has never been mentioned in previous studies, which will add to the knowledge of this field. Those barriers which have been explained in details in section 5.2 can be classified into three main categories: barriers before implementing the certificate, barriers during the process to get the certificate and barriers remains even after obtaining the certification. There was an agreement among the interviewees in the four case studies that the top management commitment is one of the main barriers before the implementing of the ISO certification. That means the top management should provide all resource requirements needed to obtain the ISO standards. One top manager in case B explained that "once we have given the approval for the implementation of the ISO certification, we drew up sat a strategy plan for the quality standard journey, we had to fulfil the resources needed included the human, financial, technology, and technical once". The top management commitment can
happened if they have a clear vision and mission regarding why, how and when the company could implement the certification, because some managers show their readiness to implement the certification but after a times they lost enthusiasm to continue in the quality journey. Another top manager in case study C stated that "implementing the ISO certification needs changes in management and organisational cultures doing training and workshops for the employees regarding the awareness, the important, the benefits and how they could implement the ISO standard". While, it be concluded from the responses of case study A and B that lack of equivalence between the company's work and ISO requirements and poor correspondence of customer satisfaction and limited training courses regarding the awareness, the understanding of the ISO standard and limited employees authority, involvement and empowerment are the main barriers during the implementation process of the ISO certification. Finally, there were some barriers that remain even when the company got the ISO certification such as resistance to change and the organisational culture and ambition of staff to be promoted to top and middle management jobs.

5.6 Contribution to knowledge

There is a lack of empirical studies on barriers to the implementation of ISO 9001:2000 in the Arab countries specifically (Al-Haj, 2006) therefore, this study has been successful in investigating and identifying the barriers to the implementation of ISO 9001:2000 which adds to knowledge in this area. In addition, the few studies in the Arab countries concerning the barriers that affect the implementation of ISO 9001:2000 standards have been conducted in the public sector. Thus, this study has attempted to narrow the gap in knowledge concerning the private sector, providing an empirical understanding of the phenomenon within this environment.

One main contribution to knowledge was found in this study, is the identification of four unique barriers affecting the implementation of ISO 9001:2000 in the private mobile companies in Jordan. These barriers are: the ambition of employees to seek top and middle management posts in the companies concerned, the restrictions applying when the companies were previously in the public sector, the failure to install complete management information systems and imbalance between the working practices of the companies and ISO 9001:2000 requirements. These barriers are not mentioned before in the literature as they were explained in section 5.2.
Since studies of barriers to the implementation of ISO 9001:2000 have mainly been undertaken in a different cultural contexts another contribution to knowledge has been conducted to examine the existing theory in a new culture, which is Jordan. Further, the internal audit has been mentioned in some literature as a barrier to implementing ISO 9001:2000 in the process of the company; however, in this study other reasons for conducting the internal audit were found in this study and have not been mentioned before in the literature such as: reviewing the documentation system, job specifications and internal communication to check whether all the department procedures were conformed to the requirements of ISO 9001:2000 standards and to decide how to make any adjustment needed. These findings are additional contribution to knowledge.

The research confirms the barriers identified by other researchers in the Arab countries, such as Al-Zamani (2002), Sharif (2005), Mohammad (2005) and Al-Haj (2006) such as: Resistance to change, Organisational culture, Lack of vision and mission, Lack of awareness of ISO 9001:2000, Lack of understanding the ISO 9001:2000 standards and requirements, Lack of employee empowerment and involvement, lack of top management commitments, Inadequate training programmes and lack of resource optimisation. These findings will strengthen the existing literature on ISO 9001:2000 area.

Moreover, this study has revealed similarities in the factors affecting ISO 9001:2000 implementation between certified and noncertified companies in the Jordanian context which is another contribution to knowledge. Further, it has been found that companies that implement ISO 9001:1994 had not much benefit in its processes from implementing ISO 9001:2000 version, because it still had an emphasis on the 1994 version with its negative and made some adjustments to obtain the certification of the 2000 version. While companies that implement ISO 9001:2000 version directly had much benefit, because it's focuses directly on the positives of the 2000 version. This finding has not been mentioned before in the literature.

Other contributions have been found in this research are: to have compiled a table 2.9 of barriers faced by organisations in different countries over a number of years. Also, the researcher summarised in table 4.8 some factors that overcome the barriers affecting the implementation of ISO 9001:2000 in the case study organisations in Jordan and how the companies could maintain the ISO certification. In addition, the research has
summarised in table 5.2 a comparison of the benefits from obtaining ISO 9001:2000 certification. Finally, in table 5.1 the researcher summarised the reasons arising for implementing ISO 9001:2000 certification. These findings have not been reported in other literature which will brace the existing literature on ISO 9001:2000 area.

This study mentioned the classification of the barriers to implementing the ISO 9001:2000. Some barriers were found before the implementation such as: Lack of top management commitments, lack of infrastructure needed includes the human, financial, technology and technical resources, lack of clear vision and mission, lack organisational cultures and limited training and workshops. While, some other barriers arose during the process of the implementation such as: Lack of awareness and understanding of the ISO standard and limited employee’s authority, involvement and empowerment. Finally, other barriers remain even after obtaining the certification such as: resistance to change and the organisational culture and ambition of staff to be promoted to top and middle management jobs. No literature mentioned this classification before, which suggested further originality in this study.

5.7 Operational Recommendations
The findings of this study have several important implications for top management and quality managers.

➤ The main implication for practicing managers is the well-known success of implementing ISO 9001:2000 quality management systems would be increased (operational and business performance) if it is well planned and implemented when the philosophical quality aspects of the organisation are coupled with employee training, periodic audits, corrective action and commitment all levels of the organisation.

➤ The finding of this research can help top management to predict possible weakness in their organisation’s plan toward the implementation of ISO 901:2000 in their companies.

➤ In order to implement ISO 9001:2000 successfully from the beginning, the top management of private mobile companies could use the listed barriers that have been found in this study to identify the barriers before the process began.

➤ This research can also direct the top managers to some benefits factors that can help the organisation in overcoming the barriers to implement the ISO certification and how they can maintain it.
Going through an intensive orientation programme on the benefits and requirements of the ISO 9001:2000 standard would clarify ideas about the certification process. Lack of top management commitment would thus be countered, because top and middle managers would be more aware and supportive of obtaining ISO certification, and they would also be able to minimise the resistance of employees to the process.

The training issue is very important and must be taken into consideration while preparing the budget as well as large-scale contracts, which should emphasise the training element for the staff. This intensive training will help in overcoming organisational and individual barriers arising from factors such as time management, change management, communication skills and optimisation of resources.

Local and foreign consultancy agencies can also benefit from the barriers found in this study when helping companies to obtain ISO 9001:2000 certification, because it will give them a full picture regarding the types of barrier which need to be overcome.

The time required for the implementation of ISO 9001:2000 certification should also be taken into account before the mobile companies decide to implement the system. Moreover, the technical, management information system, financial and human resources implications should be considered.

Also, it might be important to consider the involvement of employees at different levels in the implementation of the ISO standard. Participation of the staff in how the company could implement the ISO standard lead to reduce the resistance to change and therefore the successful application.

Also, top managers should be able to combine between the long-term objectives of the company, which some times affected the requirements of ISO 9001:2000 standards with customer satisfaction.

Finally, the top management could take into account staff satisfaction and motivation by opening the way for promotion to all levels within the company.

5.8 Recommendations for further work
The following recommendations are made for future academic and professional research arising from the present study:

Researchers could investigate and identify the factors affecting the implementation of ISO 9001:2000 in other companies in other private sector in Jordan.
In addition, the researchers could also investigate and identify the factors affecting the implementation of ISO 9001:2000 in the public sector organisations. This could help in comparing real-life practices between private and public organisations operating in Jordan.

It would seem that one major direction for further research would be to use the listed barriers of this study with other organisations, to examine the relationships between these barriers either in the same or in other private sector organisations, which would extend the findings of the current study and would also contribute to a wider generalisation.

Specific research is required to investigate and understand more about the impact of culture in implementing ISO 9001:2000 in the private and public sectors in Jordan.

This research could be replicated with similar organisations in different developing countries as part of a wider comparative study.

There could be a study of critical success factors for the application of ISO 9001:2000 standards in private sector companies in Jordan.

Research could be conducted into methods and techniques to overcome the barriers to ISO 9001:2000 implementation in private mobile companies in Jordan.

Finally, this research could have a base for further research into the implementation of other quality management systems in Jordan.

5.9 Limitations of the study

Yin (2003) notes that every research study is limited by the constraints placed upon the researcher, and this research is no exception. The researcher has made every effort to overcome these limitations to ensure that this study could be delivered smoothly, but it was not possible to control all the factors that were likely to affect its quality. The limitations of this research are:

The inability to make sound recordings of the interviews due to cultural constraints. This may have led to important information being missed and less concentration on the interviews. In order to tackle this limitation, the researcher tried to write as much as possible during the interview, and then immediately after each interview, allow time to record all pieces of information and ideas while they were still easy to recall.
Another limitation concerns the large amount of data which was collected during the interviews, which may have led to missing important information or to the over-weighting of some findings due to focusing on particular issues rather than others, which may have been important (Saunders et al. 2007). This limitation was addressed by compiling the collected data into tables, which minimised the risk of missing important information.

Thirdly, during the interviews the researcher may have given out unconscious signals that guided respondents to give answers expected by the researcher (Miles and Huberman, 1994). This was avoided as much as possible by the researcher keeping himself neutral and giving the interviewees freedom to answer the questions (Sunders et al., 2007).

A fourth limitation was that during the data collection period the researcher was able to make observations only during the interviews.

The fifth limitation is that some of documents were restricted within the case study organisations and the researcher was only able to peruse them on the premises, as it was not possible to obtain copies.

It may also be difficult to reconcile the differences between the respondents' answers and assess how representative they are (Saunders et al., 2007). To overcome this, the researcher used other sources of information such as documents, archives and minor observations.

Another limitation was that there were some foreigners who were part of the management team. The interviewer was keen to interview them to gain more depth in understanding and to have other views in different cultures and backgrounds, but they refused to conduct the interviews.

A final limitation was the confidentiality of the subject investigated. Due to the fact that some barriers to the implementation of ISO 9001:2000 are highly confidential, a few of the interviewees seemed uncomfortable in giving some information during the interview sessions. To solve this problem, the researcher used soft skills to try to make the interview sessions as relaxed as possible. Before the actual interviews were started, the researcher had visited top management in the four companies to introduce himself, to build a rapport and to seek permission to conduct the interviews at three management levels.
5.10 Chapter summary
In this chapter, the reasons for achieving ISO 9001:2000 certification and the benefits gained from implementing it have been discussed. Tables 5.1 and 5.2 summarise these findings. The barriers to implementation which emerged from the extensive review of the literature and from the findings of the four case study organisations were discussed in detail and are summarised in Table 5.3. Four of these were found to be unique to the present study. In addition to the discussion regarding how the companies under study overcame these barriers and maintained ISO certification.

The research methodology was carefully developed so that it helped the researcher to conduct a rigorous study, and this has helped the author to achieve the aim and objectives of the study. Finally, several limitations were addressed to preserve the quality of this study. The next chapter will summarise the research content and will discuss meeting the aim and objectives of this research. It will then review the contribution made by the study and offer recommendations for further research work.

Table 5.1: a comparison of the reasons for obtain the ISO certification that found in this study and those reported in other literature

<table>
<thead>
<tr>
<th>The Reasons</th>
<th>Found in this study</th>
<th>Found in the literature</th>
</tr>
</thead>
<tbody>
<tr>
<td>To improve the reputation and image</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>To continual improvement</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Satisfy customers</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Market related tools</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Competitive reasons</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>To improve the internal procedures</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Top management desire</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Increase profitability</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Providing job specification and description</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>No guarantee of gaining benefits from implementing the ISO certification</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Clear vision and mission</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>To minimise product or service cost</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>To improve productivity</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>To motivate employees and to improve their participation</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>To improve communication inside and outside the organisation</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>To increase the awareness of quality issues throughout the organisation</td>
<td>X</td>
<td></td>
</tr>
</tbody>
</table>
Table 5.2: a comparison of the benefits from obtaining the ISO certification that found in this study and those reported in other literature

<table>
<thead>
<tr>
<th>The Benefits</th>
<th>Found in this study</th>
<th>Found in the literatures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Professionalism of the work</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Transparency in human resources management</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Cost effectiveness</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Improvement of the work</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Go further in other quality certifications</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Improve the internal communication</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Return of investment</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Improved the employees’ skills</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Change the employees’ cultures</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>The institutional work</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Customer satisfaction</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Improve the internal communication leading to reduce costs</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Motivation of employees</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Greater opportunity for export</td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>

Table 5.3: a comparison of the barriers affecting the implementation of ISO 9001:2000 that found in this study and those reported in other literature

<table>
<thead>
<tr>
<th>The barriers</th>
<th>in this study</th>
<th>in the literatures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lack of top management commitment</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Lack of resources requirements</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Lack of equivalence between the company’s work and ISO requirements</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Poor correspondence of customer satisfaction</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>The competition among consultancy companies</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Lack of full management information system</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Lack of awareness of ISO benefits</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Limited involvement of employees</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Limited employee authority and empowerment</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Lack of understanding of ISO requirements</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Poor of internal processes</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Lack of organisational culture</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Lack of clear vision and mission</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Resistance to change</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>----------------------</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>The ambition of staff to be promoted to top and middle management Jobs</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Limited training courses</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Leaving the company in the public sector</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Lack of motivation in the system</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Poor English among employees</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Lack of availability of information</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Social relations</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Lack of communication among employees</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Lack of calibration process</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>High cost of obtaining the certification</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Lack of documentation</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Lack of time requirements to obtain the certification</td>
<td>X</td>
<td></td>
</tr>
</tbody>
</table>

Table 5.4: classification of the barriers to the implementation of the ISO at the four case studies

<table>
<thead>
<tr>
<th>The barriers</th>
<th>Before the implementation of ISO certification</th>
<th>During the implementation of ISO certification</th>
<th>Remain after the implementation of ISO certification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lack of top management commitment</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lack of resources requirements</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lack of equivalence between the company’s work and ISO requirements</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Poor correspondence of customer satisfaction</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>The competition among consultancy companies</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lack of full management information system</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lack of awareness of ISO benefits</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Limited involvement of employees</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Issue</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>----------------------------------------------------------------------</td>
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<td>Limited employee authority and empowerment</td>
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<tr>
<td>Lack of understanding of ISO requirements</td>
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<td>Poor of internal processes</td>
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<td>Lack of organisational culture</td>
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<td>Lack of clear vision and mission</td>
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<td>Resistance to change</td>
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<tr>
<td>The ambition of staff to be promoted to top and middle management Jobs</td>
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<td>Limited training courses</td>
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<td>Leaving the company in the public sector</td>
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CHAPTER SIX
CONCLUSION AND RECOMMENDATIONS

6.1 Introduction
This study has examined the phenomenon of ISO 9001:2000 within the four private mobile phone companies in Jordan, with the aim of investigating and identifying the barriers that affect the implementation of this quality standard. In order to achieve the research aim and objectives, to answer the research questions and to maximize the quality of the case study findings there was a need to choose the most appropriate research approach and strategy for the researcher to follow in collecting and analysing the data collected. The selection of the appropriate methodology for this research came after a review of the literature on the research topic, the setting of the aims and objectives, along with an examination of the literature on research methodology. The aim was to investigate empirically and in depth the barriers to the implementation of ISO 9001:2000 in four organisations within their environmental and organisational context.

Based on the nature of this research, the phenomenological research paradigm and the use of the qualitative philosophy were argued as discussed in section 3.3.1 to be the perfect means due to its subjectivity and to gain an in-depth understanding and identify the factors that affect the implementation of ISO 9001:2000 in the private mobile companies in Jordan. The findings show that the case study strategy was suitable for this kind of research which allowed the researcher to gain such an understanding in a real-life context and as discussed in section 3.5.2. It offered the potential of more holistic understanding of the nature, context and processes of quality management practices from the point of view of the participants. Thus, the multiple case design used in this research provided a more powerful, convincing and insightful tool than would have been possible with a single case study. In addition, the multiple sources of evidence was found to be useful because it helped to reduce inappropriate certainty, in this case the researcher could consult documents that were able to verify the answer provided, and then compare this to other methods of data collection. Semi-structured interviews were adopted as the main tool for data collection, in addition to triangulation with other sources of relevant data such as documents, archive records and direct observation. The major method of data collection was by interview, following a semi-structure design. This design allowed the questions to be prepared in advanced to ensure
that all the major propositions in the listed barriers to implement ISO 9001:2000 found from the literatures were covered in the interviews.

After reviewing the related literature and once the barriers and issues that affect ISO 9001:2000 implementations were identified, the researcher produced an interview protocol. To enhance its validity, it was finalised after reviewing it many times, taking into account the comments of the researcher’s supervisor. Another review was conducted by some PhD researchers, especially regarding the translation of the interview questions into Arabic and back to English. As a final step to guarantee the validity of the interview questions, a pilot study was carried out within the case study organisations, and the feedback resulted in some of the questions being modified and changed. This was done to check whether the questions were clear and understandable to the interviewees. The researcher provided question forms to the interviewees in advance, allowing them to make comments about the questions before the interviews, which promoted validity and reliability by enabling the interviewees to consider the information being requested and allowing them the opportunity to assemble supporting organisational documentation from their files. In addition, all the interviews were transcribed and the transcriptions were sent back to interviewees for verification, which gave the researcher confidence that the information that was gathered from the interviews was high in quality and so increased the validity and the reliability of the study. Moreover, the interviews were conducted in the researcher’s and interviewees’ native language, to ensure that the interviewees could effectively articulate their thinking, which also increase the validity of the study.

The method of data analysis Ground theory and explanation building, by adopting these method, the researcher has been able to build explanations regarding the phenomena investigated, which are the barriers affecting the implementation of ISO 9001:2000 within private mobile companies in Jordan.

6.2 Meeting the aim and objectives, and answering the research questions
The main research questions were answered through achieving the aim of this study, which was to investigate and identify the barriers that affecting the implementation of ISO 9001:2000 by private mobile companies in Jordan. This aim has been accomplished effectively by addressing the research objectives as follows:
The first objective was to review the relevant literature on the concept of quality management systems and their requirements, philosophies and theories as applicable to ISO 9001:2000, and on the common types of barrier to the implementation of ISO 9001:2000 in different organisations and countries, in order to list these barriers for the understanding of them in the Jordanian context. This objective was achieved by building a good knowledge through a critical literature review of quality gurus' philosophies, of the history of QMS and ISO, and of the requirements and principles of ISO 9001:2000. A wide-ranging review was also conducted of the literature on the commonly identified barriers to the implementation of ISO 9001:2000 around the world, in order to understanding them. These barriers are based on three categories, namely internal barriers, external barriers and technical barriers, each of which consists of many elements.

The second objective was to gain empirical an in-depth understanding of the barriers to the implementation of ISO 9001:2000 by Jordanian mobile companies. In order to satisfy this objective, four case studies were conducted to gather relevant information on the barriers to the implementation of ISO 9001:2000 within the case study organisations. The methods of data collection chosen as appropriate were semi-structured interviews with managers at all levels, following appropriately prepared interview protocols and triangulated with documents, archival records and direct observation, which enhanced the validity of this research. It should be mentioned that meeting this objective was highly dependent on the first objective having been accomplished.

The third objective was to explore and identify the barriers to the implementation of ISO 9001:2000 by the mobile companies in Jordan. To meet this objective, the findings from the case study organisations were categorised and thereafter analysed using a narrative technique such as the Grounded theory and Explanation building to interpret and present them in a meaningful form. Data triangulation was achieved and the barriers were explored and identified, thereby securing the third objective.

6.3 Originality
One main original contribution of this research is an in-depth understanding of the barriers affecting the implementation of ISO 9001:2000 in the private mobile companies in Jordan which are listed in section 5.4. To the best of the researcher's knowledge, this
study is the first to be carried out in Jordan into the barriers to the implementation of ISO 9001:2000. It's also the first academic study for the mobile companies in Jordan. Moreover, no case study research has been examined this topic in Jordan mentioned in the literature. Therefore, it is hoped that it provides a basis for the development of scientific research in this area.

Moreover, research on ISO standard tended on the ISO 9001:1994. However, little attention has been paid to the ISO 9001:2000 around the world in general and the Arab world in particular (Al-Haj, 2006). Therefore, this research will add to the knowledge in this field because it's about the implementation of ISO 9001:2000. In addition, the few studies of the implementation of ISO 9001:2000 were in public sectors, however this study identified the barriers to the implementation in ISO 9001:2000 in the private sector which contributes originally knowledge to the field of the ISO 9001:2000 implementation related-barriers to services and mobile companies and narrowed the gap in this field.

Four unique barriers affecting the implementation of ISO 9001:2000 in the private mobile companies in Jordan were identified in this study. They are:

- The ambition of employees to seek top and middle management posts in the companies concerned
- The restrictions applying when the companies were previously in the public sector.
- The failure to install complete management information systems.
- Imbalance between the working practices of the companies and ISO 9001:2000 requirements.

In addition to nine barriers referred to in the literatures were not found in the case study companies such as: High cost of obtaining the certification, Limited calibration processes, Lack of communication among employees, Lack of time for implementing the certification, lack of documentation system, Social relations, Lack of availability of information, Poor knowledge of English among employees and Lack of motivation in the system. These findings will strengthen the existing literature on ISO 9001:2000 area.
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Appendix 1

The definitions of Quality

- **Quality as excellence.** This definition is considered to be the traditional academic view that holds as its goal to be the best.
- **Quality as zero errors.** This is defined most easily in mass industry in which product specifications can be established in detail, and standardized measurements of uniform products can show conformity to them. As the products of higher education, the graduates, are not expected to be identical, this view is not always considered to be applicable to higher education.
- **Quality as fitness for purposes.** This approach requires that the product or service has conformity with customer needs, requirements, or desires.
- **Quality as transformation.** This concept focuses firmly on the learners: the better the higher education institution, the more it achieves the goal of empowering students with specific skills, knowledge and attitudes which enable them to live and work in the knowledge society.
- **Quality as threshold.** Defining a threshold for quality means setting certain norms and criteria. Any institution that reaches these norms and criteria is deemed to be of quality.
- **Quality as value for money.** The notion of accountability is central to this definition of quality with accountability being based on the need for restraint in public expenditure.
- **Quality as enhancement or improvement.** This concept emphasizes the pursuit of continuous improvement and is predicated on the notion that achieving quality is central to the academic ethos and that it is academics themselves who know best what quality is at any point in time.

Edward Deming's 14 points

1. Innovate and allocate resources to fulfill the long-term needs of the company and customer rather than short-term profitability.

2. Discard the old philosophy of accepting nonconforming products and services.

3. Eliminate dependence on mass inspection for quality control; instead, depend on process control, through statistical techniques.

4. Reduce the number of multiple source suppliers. Price has no meaning without an integral consideration for quality. Encourage suppliers to use statistical process control.

5. Use statistical techniques to identify the two sources of waste -- system (85%) and local faults (15%); strive to constantly reduce this waste.

6. Institute more thorough, better job related training.

7. Provide supervision with knowledge of statistical methods; encourage use of these methods to identify which nonconformities should be investigated for solution.

8. Reduce fear throughout the organisation by encouraging open, two-way, non-punitive communication. The economic loss resulting from fear to ask questions or reporting trouble is appalling.

9. Help reduce waste by encouraging design, research, and sales people to learn more about the problems of production.

10. Eliminate the use of goals and slogans to encourage productivity, unless training and management support is also provided.

11. Closely examine the impact of work standards. Do they consider quality or help anyone do a better job? They often act as an impediment to productivity improvement.

12. Institute rudimentary statistical training on a broad scale.

13. Institute a vigorous program for retraining people in new skills, to keep up with changes in materials, methods, product designs and machinery.

14. Create a structure in top management that will push every day for continuous quality improvement.

(Source: Deming, 1982)
The ISO 9000 family:

The table below shows the family of the ISO 9000 and the purpose of each standard.

<table>
<thead>
<tr>
<th>Standards and guidelines</th>
<th>Purpose</th>
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<tbody>
<tr>
<td>ISO 9000 (2000), <em>Quality management systems - Fundamentals and vocabulary</em></td>
<td>Establishes a starting point for understanding the standards and defines the fundamental terms and definitions used in the ISO 9000 family which you need to avoid misunderstandings in their use.</td>
</tr>
<tr>
<td>ISO 9001 (2000), <em>Quality management systems - Requirements</em></td>
<td>This is the requirement standard you use to assess your ability to meet customer and applicable regulatory requirements and thereby address customer satisfaction. It is now the only standard in the ISO 9000 family against which third-party certification can be carried.</td>
</tr>
<tr>
<td>ISO 9004:2000, <em>Quality management systems - Guidelines for performance improvements</em></td>
<td>This guideline standard provides guidance for continual improvement of a quality management system to benefit all parties through sustained customer satisfaction.</td>
</tr>
<tr>
<td>ISO 19011, <em>Guidelines on Quality and/or Environmental Management Systems Auditing</em> (currently under development)</td>
<td>Provides guidelines for verifying the system's ability to achieve defined quality objectives. This standard can be used internally or for auditing your suppliers.</td>
</tr>
<tr>
<td>ISO 10006:1997, <em>Quality management - Guidelines to quality in project management</em></td>
<td>Guidelines to help ensuring the quality of both the project processes and the project products.</td>
</tr>
<tr>
<td>ISO 10007:1995, <em>Quality management - Guidelines for configuration management</em></td>
<td>Gives guidelines to ensure that a complex product continues to function when components are changed individually.</td>
</tr>
<tr>
<td>ISO/DIS 10012, <em>Quality assurance requirements for measuring equipment</em></td>
<td>Gives guidelines on the main features of a calibration system to ensure that measurements are</td>
</tr>
<tr>
<td>Part 1: <strong>Metrological confirmation system for measuring equipment</strong></td>
<td>made with the intended accuracy.</td>
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<tr>
<td>ISO 10012-2:1997, <em>Quality assurance for measuring equipment - Part 2: Guidelines for control of measurement of processes</em></td>
<td>Provides supplementary guidance on the application of statistical process control when this is appropriate for achieving the objectives of Part 1.</td>
</tr>
<tr>
<td>ISO 10013:1995, <em>Guidelines for developing quality manuals</em></td>
<td>Provides guidelines for the development, and maintenance of quality manuals, tailored to your specific needs.</td>
</tr>
</tbody>
</table>

(Source: www.iso.ch).
APPENDIX 4

The twenty elements of ISO 9001:1994

1. *Management Responsibility.* Management sets the company quality policy and implements it by providing resources, personnel and training.

2. *Quality System.* A Quality System comprised of a Quality Manual and supporting procedures is created and maintained.

3. *Contract Review.* Contracts reflect the customers' needs and expectations. Products and services provided must comply with those requirements.

4. *Design Control.* Engineering drawings and design changes are carefully documented to ensure that changes have been fully coordinated and approved internally, and when appropriate, by the customer.

5. *Document Control.* The creation and modification of documents supporting the Quality System is strictly controlled by ISO 9001 procedures.

6. *Purchasing.* Purchasing procedures describe supplier requirements and the system for ensuring compliance to these standards.


8. *Product Identification and Traceability.* Methods of tracking date and lot codes of product and raw materials from start to finish guarantee traceability.

9. *Process Control.* Work instructions, quality plans and workmanship standards verify that each job is being done correctly.

10. *Inspection and Testing.* Inspection and testing at receiving, in-process and final inspection areas ensures quality. Test and inspection records are preserved as part of the quality system.

11. *Inspection, Measuring and Test Equipment.* Instruments and measuring tools are calibrated regularly and records maintained.

12. *Inspection and Test Status.* Only inspected materials may be used or processed further. Inspected product is always identified.

13. *Control of Nonconforming Product.* Materials or products that fail to meet specifications are rejected and separated from normal production. Only the proper authorities may decide if rejected material will be used as is, reworked or returned to the supplier.

14. *Corrective Action.* The corrective action system focuses on identifying the root cause of quality concerns and any corrective action required.
15. Handling, Storage, Packaging and Delivery. Procedures outline practices that protect products from damage during manufacturing and shipping.

16. Quality Records. Quality records provide an audit trail for internal and external auditors.

17. Internal Quality Audits. Specially trained teams verify that the Quality System is working by evaluating the same 20 elements required by the external auditors, on an on-going basis.

18. Training. Training records are maintained for every employee showing their levels of expertise.

19. Servicing. Where servicing is specified in the contract, procedures are established to verify that servicing meets the indicated requirements.

20. Statistical Techniques. Control charts, graphs and other methods of analysis determine how well a process is working and facilitate continuous improvement.

(Source: Shnay, 1998).
### Appendix 5

**ISO 9001:2000 Standard’s Requirements**

<table>
<thead>
<tr>
<th>Section 4: The quality management system</th>
<th>Section 4: The quality management system</th>
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<tbody>
<tr>
<td>4.1-General requirements</td>
<td>7.1-Planning of product realisation</td>
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<td>4.2-Documentation Requirements</td>
<td>7.2-Customer-related processes</td>
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<td>4.2.1-General</td>
<td>7.2.1-Determination of requirements related to the product</td>
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<td>4.2.2-Quality manual</td>
<td>7.2.2-Review of requirements related to the product</td>
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<td>4.2.3-Control of documents</td>
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<td>7.3.2-Design and development inputs</td>
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<td>7.3.3-Design and development outputs</td>
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<td>7.3.6-Design and development validation</td>
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<td>7.3.7-Control of design and development changes</td>
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<td>7.5-Production and service provision</td>
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<td>7.5.1-Control of production and service provision</td>
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<td></td>
<td>7.5.2-Validation of processes for production and service provision</td>
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<td>7.5.3-Identification and traceability</td>
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<td>7.5.4-Customer property</td>
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<td>7.5.5-Preservation of product</td>
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<td>7.6-Control of monitoring and measuring devices</td>
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<td>8.2-Monitoring and measurement</td>
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<td>8.2.2-Internal audit</td>
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<td>8.2.3-Monitoring and measurement of processes</td>
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<td>8.2.4-Monitoring and measurement of product</td>
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<td>8.3-Control of non-conforming product</td>
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<td>8.4-Analysis of data</td>
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<td>8.5-Improvement</td>
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<td>8.5.2-Corrective action</td>
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<td>8.5.3-Preventive action</td>
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<th>Section 5: Management Responsibility</th>
<th>Section 8: Measurement, analysis and improvement</th>
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<td>5.2-Customer focus</td>
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<td>8.2.4-Monitoring and measurement of product</td>
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<td>6.2.2-Competence, awareness and training</td>
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<td>6.3-Infrastructure</td>
<td>6.3-Infrastructure</td>
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<tr>
<td>6.4-Work environment</td>
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Appendix 6

Reasons to get the ISO 9000, found in the literatures.

<table>
<thead>
<tr>
<th>The reasons</th>
<th>The researcher name, year of the research</th>
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<td>Competitive pressures</td>
<td>Awan and Bhatti (2003), Santos and Escanciano (2002), Oztas et al. (2007), Bayati and Taghavi</td>
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<tr>
<td>Benefit</td>
<td>References</td>
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<tr>
<td>To minimise operating cost</td>
<td>Santos and Escanciano (2002), Fuentes et al. (2000)</td>
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<tr>
<td>To increase awareness</td>
<td>Fuentes et al. (2000)</td>
</tr>
<tr>
<td>To use certification as a motivating and promotional tool</td>
<td>Santos and Escanciano (2002), Fuentes et al. (2000)</td>
</tr>
<tr>
<td>To improve the working environment and corporation level decision.</td>
<td>Wiele et al. (2001), Fuentes et al. (2000), Inaki et al. (2006), Bayati and Taghavi (2007)</td>
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<tr>
<td>To adds credibility to the suppliers</td>
<td>Devos et al. (1996)</td>
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</table>
Appendix 7

Benefits from implementing ISO 9000, found in the literatures.

<table>
<thead>
<tr>
<th>The benefits</th>
<th>The researcher name, year of the research</th>
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<tbody>
<tr>
<td>Improved corporate image</td>
<td>Sauvage and Aptel (2004), Poksinska et al. (2002)</td>
</tr>
<tr>
<td>Improved productivity and</td>
<td>Quazi et al. (2002), McAdam and McKeown (1999), Gotzamani and Tsiotras (2002), Arauz</td>
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<tr>
<td>Improve the internal communication in the organisations</td>
<td>Beskese and Cebeci, (2001), Koo et al. (1998)</td>
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<tr>
<td>Increased effectiveness</td>
<td>Tang and Kam (1999)</td>
</tr>
<tr>
<td>Greater opportunity for export</td>
<td>Gotzamani and Tsiotras (2002).</td>
</tr>
<tr>
<td>Improved mutual cooperation with suppliers</td>
<td>Arauz and Suziki (2004),</td>
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</table>
THE TELECOMMUNICATIONS REGULATORY COMMISSION

a) A Commission called the "Telecommunications Regulatory Commission" answerable to the Prime Minister shall be established in the Kingdom. It shall be a financially and administratively independent juridical personality, and, in such capacity, shall be entitled to own and dispose of movable and immovable property necessary to achieve its objectives, enter into contracts with third parties, and take all legal actions, including the right to litigate, and appoint the civil public prosecutor or any other attorney as its representative in judicial proceedings.

b) The Commission shall enjoy all exemptions and facilities enjoyed by ministries, governmental entities, and official public sector organizations.

The Commission shall have its headquarters in Amman, and shall be entitled to set up offices anywhere in the Kingdom.

The Commission shall undertake the following duties and responsibilities:

a) To regulate telecommunications and information technology services in the Kingdom in accordance with the established general policy so as to ensure the provision of high quality telecommunications and information technology services to Beneficiaries at reasonable prices; and, by so doing, to make possible the optimal performance of the telecommunications and information technology sectors.

b) To establish the basis for regulation of the telecommunications and information technology sectors, in accordance with the established general policy, in such a way that services meet the needs of the comprehensive development in the Kingdom in accordance with instructions to be issued by the Board for this purpose.

c) To specify the minimum level of service quality which must be committed by Licensees to meet the needs of Beneficiaries, in consultation with the Licensees and without the imposition of any specific technological solutions on them.

d) To protect the interests of Beneficiaries and monitor the actions of persons and licensed parties to ensure that the conditions of Licenses are observed, including specified service standards, service quality, and prices; and to take the necessary actions in this regard and to penalize those who violate these conditions.
e) To stimulate competition in the telecommunications and information technology sectors, relying on market forces, and so regulating them as to ensure the effective provision of telecommunications and information technology services and to ensure that its regulation is sufficient and effective to forbid or curtail illegal competitive practices or prevent any person with a dominant position in the market from abusing his position, and to take all necessary actions in this regard.

f) To participate in the representation of the Kingdom in meetings, conferences, negotiations, and symposiums, and other international forums pertaining to telecommunications and information technology.

g) To encourage self-regulation by the telecommunications and information technology sectors.

h) To establish and adopt the conditions and criteria for the granting of licenses for telecommunication networks and services and for the use of Radio Frequencies.

i) To manage the Radio Frequency Spectrum and to regulate the use of all terrestrial, maritime, aeronautical and space frequencies. including:

1) Preparing and maintaining the National Table of Frequency Allocations.

2) Preparing the National Plan for Frequency Allocations and the National Register of Frequency Assignments, in collaboration with the concerned parties in the military and security entities.

3) Maintaining the civilian portion of the National Plan for Frequency Allocations and the National Register of Frequency Assignments, and publishing them to the public.

j) To regulate access to telecommunications networks and conditions of interconnection therewith in accordance with instructions to be issued by the Commission for this purpose, approve the interconnection agreements referred to in Paragraph (e) of Article 29 of this Law, and to ensure that these agreements do not violate those instructions, taking into consideration the conditions of any License granted by the Commission or any agreement with the Government entered into prior to the effective date of this Law.

k) To establish technical rules and standards for the connection of wire line or wireless equipment, including Telecommunications Terminal Equipment with the Public Telecommunications Networks, and to set the regulation procedures for importing such equipment into the Kingdom, taking into consideration the bases prescribed in the prevailing Standards and Metrology Law.
1) To grant Type Approvals and to regulate the importation and usages of Telecommunication Terminal Equipment required for individual and private uses, or for use in specific zones, and to monitor such usage.

m) To gather information related to the telecommunications and information technology sectors in order to prepare and publish reports, pamphlets, and guidelines for Beneficiaries, as well as to prepare media programs required to increase the public awareness of the importance of these sectors and the extent to which these may positively impact the economic and social development in the Kingdom.

n) To issue an annual report describing the Commission's activities and achievements, technology developments, any variables in the established general policy relating to telecommunications services, and the future plans of the Commission, and to publish this report.

o) To re-assess the need for the adjustment of the level of regulation of any Telecommunication Services, or a specific type or a group thereof, taking into consideration competition factors and any other reasons, and to escalate the same to the Board for approval.

p) To propose draft laws dealing with the telecommunications and information technology sectors, escalate them to the Ministry, and prepare the by-laws and establish the instructions related thereto.

q) Any other tasks entrusted to it pursuant to the legislations in force.
## Appendix 9

### Strengths and weaknesses of research paradigm

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<thead>
<tr>
<th>Theme</th>
<th>Strengths</th>
<th>Weaknesses</th>
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<tr>
<td><strong>Positivism</strong></td>
<td><em>They can provide wide coverage of the range of situations.</em></td>
<td><em>The methods used tend to be rather inflexible and artificial.</em></td>
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<td><em>They can be fast and economical.</em></td>
<td><em>They are not very effective in understanding processes or the significance that people attach to actions.</em></td>
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<td><em>Where statistics are aggregated from large samples, they may be of considerable relevance to policy decisions.</em></td>
<td><em>They are not very helpful in generating theories.</em></td>
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<td><em>Because they focus on what is, or what has been recently, they make it hard for policy makers to infer what changes and actions should take place in the future.</em></td>
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<td><strong>Phenomenological</strong></td>
<td><em>Data-gathering methods seen more natural than artificial.</em></td>
<td><em>Data collection can be tedious and require more resources.</em></td>
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<td><em>Ability to look at change processes over time.</em></td>
<td><em>Analysis and interpretation of data may more difficult.</em></td>
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<td><em>Ability to understand people's meaning.</em></td>
<td><em>Harder to control the pace, progress and end-points of research process.</em></td>
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<td><em>Ability to adjust to new issues and ideas as they emerge.</em></td>
<td><em>Policy makers may give low credibility to results from qualitative approach.</em></td>
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<td></td>
<td><em>Contribute to theory generation.</em></td>
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Appendix 10

Interview questions for Top management in certified organisation

1. What is your knowledge about ISO 9000 standards?
2. Have you been receiving any training programme related to ISO 9000 standards?
3. Why did your organisation decided to go for ISO 9000 certification?
4. Do you feel that the organisation have received the benefits that was planning to? Why?
5. Is the purposes and the benefits of the ISO 9000 certification understood among the employees in the organisation during the implementation process, and after you got the certification? Why?
6. How did your organisation implement the ISO 9000 standards?
7. What were the barriers that your organisation faced during the certification process?
8. Could you divide these barriers into three parts, before implementing ISO, in the process of implementing ISO, after you got the certification?
9. How did the organisation overcome these barriers?
10. What was the period time your company spent to get the ISO 9001:2000 certification? Why?
11. If you would go through the implementation again, what would you do differently?
12. Have the responsibilities, authorities, involved and empower the employees defined in the organisation? Why?
13. Who is your calibration body? Why?
14. What were the changes required in your organisation to satisfy the system?
15. Did you face any problems when making these changes? Why?
16. How does your organisation, individuals’ culture affect the implementation process?
17. What are the barriers affecting maintenance of the system?
18. How do you maintain the system? Why?
19. How does the organisation identify and trace its problems?
20. Is there are any other issues about implementing the ISO 9000 that you want to discuss?
Interview questions for Middle and Shop floor Management levels in certified organisation

1. What is your knowledge about ISO 9000 standards?
2. Did you receive any training courses related to ISO 9000 certification?
3. How did your department implement the ISO 9000 system?
4. Is the purposes and the benefits of the ISO 9000 certification understood among the employees in your department? Why?
5. Are all work procedures and instruction identified? If not, why?
6. What are the barriers that affected the implementation of ISO 9000 system?
7. How does the organisation identify and trace its problems?
8. How these barriers affected implementing the system?
9. How your department overcome the barriers and obstacles of implementing the ISO 9000 system?
10. What are the barriers your department faced while maintaining the system? Why?
11. What are the main issues raised while conducting the internal auditing program?
12. What were the changes required in the organisation to satisfy the system?
13. Did you face any problems when making these changes? Why?
14. If you would go through the implementation again, what would you do differently?
15. What was your role in helping implementing the system?
16. How does the management involve and empower the employees? Why?
17. How does the organisation identify and trace its problems?
18. Have the organisation use the appropriate IT and MIS in exchange the information? Why?
19. Are the customer's requirements addressed in the product design processes in the organisation? Why?
20. Does your department document and review all documents, records, results and procedures related to quality and maintain them? If not, Why?
21. Is there any other issues about implementing the ISO 9001:2000 that you want to discuss?
Appendix 11

Interview questions for Top management in the organisation in the process to get ISO certification

1. What is your knowledge about ISO 9000 standards?
2. Have you been receiving any training programme related to ISO 9000 standards?
3. Are there any future training programs to the employees related to quality? Why?
4. Why did your organisation decided to go for ISO 9000 certification?
5. Is the purposes and the benefits of the ISO 9000 certification understood among the employees in the organisation during the implementation process, and after you got the certification? Why?
6. How did your organisation implement the ISO 9000 standards?
7. What were the barriers that your organisation faced during the certification process?
8. Could you divide these barriers into two parts, before implementing ISO, and during the process of implementing ISO?
9. How did the organisation overcome these barriers?
10. What was the period time your company spent until now in the process to get the ISO 9001:2000 certification? Why?
11. Have the responsibilities, authorities, involved and empower the employees defined in the organisation? Why?
12. Who is your calibration body? Why?
13. What were the changes required in your organisation to satisfy the system?
14. Did you face any problems when making these changes? Why?
15. How does your organisation, individuals' culture affect the implementation process?
16. How does the organisation identify and trace its problems?
17. Is there are any other issues about implementing the ISO 9000 that you want to discuss?
Interview questions for Middle and Shop floor management levels in the organisation in the process to get ISO certification

1. What is your knowledge about ISO 9000 standards?
2. Did you receive any training courses related to ISO 9000 certification?
3. Are their any future training programs to the employees related to quality? Why?
4. Is the purposes and the benefits of the ISO 9000 certification understood among the employees in your department? Why?
5. Are all work procedures and instruction identified? If not, why?
6. What are the barriers that affected the implementation of ISO 9000 system?
7. Could you divide these barriers into two parts, before implementing ISO, and during the process of implementing ISO?
8. How does the organisation identify and trace its problems?
9. What were the changes required in the organisation to satisfy the system?
10. Did you face any problems when making these changes? Why?
11. What was your role in helping implementing the system?
12. How does the management involve and empower the employees? Why?
13. Have the organisation use the appropriate IT and MIS in exchange the information? Why?
14. Are the customer's requirements addressed in the product design processes in the organisation? Why?
15. Does your department document and review all documents, records, results and procedures related to quality and maintain them? If not, Why?
16. Is there any other issues about implementing the ISO 9001:2000 that you want to discuss?
Appendix 12

Interview questions for top management in non certified organisation

1. What is your knowledge about ISO 9001:2000 standards?
2. Have you been receiving any training related to ISO 9001:2000 standards?
3. Is there any training courses for your staff in any type of quality related issues?
4. Are you aware of the benefits of the ISO 9001:2000 system?
5. Why your organisation did not sought yet the ISO 9001:2000 certification?
6. What are the barriers facing the organisation to start implement ISO 9001:2000 standards?
7. What is the quality management system that is implemented now in the organisation?
8. How do you evaluate the communication and coordination between the sections within your departments? Why?
9. How do you evaluate the services that you are delivering to the customers? Do you think it's satisfactory? Why?
10. How does your organisation measure its customer satisfaction and is that sufficient for now?
11. Are the customer's requirements addressed in the product design processes in the organisation?
12. How do you evaluate the documentation level in your organisation? Is the work procedures and instructions are well documented? If not, why?
14. Have the responsibilities and authorities defined and deployment in the organisation? How?
15. How does your department identify and trace the problems?
16. Is there any empowerment and involvement for the employees in your department? Why?
17. How is the coordination and communication between different departments?
18. How is the communication between your department and the customers?
19. Is there any other issues about implementing the ISO 9001:2000 that you want to discuss?
Appendix 14

Companies chosen for case studies

1. Zain
Zain is the new name for the largest mobile company in Jordan, which was known as Fastlink until 2007. Founded in 1995, it was the first operator to introduce mobile phone services in Jordan. In January 2003, Mobile Telecommunications Company (MTC) of Kuwait acquired 91.6% of Fastlink in what was widely considered the largest single acquisition in the Middle East area and the largest private sector investment in Jordan (Zain, 2008). Zain holds a 15-year licence which expires in 2020 but which will be automatically renewed if the licensee has operated successfully and in accordance with the law (TRC, 2008).

Zain has network coverage of over 99.9% of the populated areas in Jordan, despite the challenging geography of the country: 70% of the network is over mountainous terrain, which requires superior network design and maintenance capabilities. Through an aggressive rollout of a dense microcellular network, Zain has also achieved a high degree of indoor penetration, with high quality voice and data communications (Global Research, 2006).

Zain has over 1100 direct employees, who are almost all Jordanian, and has created indirect job opportunities for thousands more. It has around 2.25 million customers and a market share of 39%. Its strategic plan is to operate in seven Arab countries and fourteen African nations, with 32 million customers. Thus, the Jordanian company will be a member of a group that aims to become one of the top ten mobile operators in the world in 4 years (Zain, 2008).

2. Orange
Orange is Jordan’s second mobile network, launched in September 2000 under the name of Mobilcom. In 2007 Orange bought 60% of Mobilcom shares and the company adopted the famous Orange brand name (Orange, 2008).

Orange plays a prominent role in the information and communications technology sector. Its fixed, mobile and internet services constitute the real base for Jordan’s...
telecommunications renaissance and contribute to its integration with the regional and the wider world (Orange, 2008).

Orange employs 620 people in its mobile business in Jordan, where its network coverage is currently over 99.9%. There were around 1.71 million mobile subscribers at the end of 2007, earning Orange 33.5% of the market. Like Zain, Orange holds a 15-year licence ending in 2020, which will be automatically renewed if it is found to have operated successfully and in accordance with the law (TRC, 2008).

3. Umniah
The Umniah mobile company became the fourth mobile telecommunication provider in Jordan in August 2004. Bagrant-basem Batelco acquired a 96% stake in the company in June 2006. Six months after its launch in June 2005, Umniah attracted 300,000 active subscribers, which represents a 10% market share in the country. By December 2006, Umniah’s market share had increased to 17% and at the end of 2007 it stood at 26.2% (TRC, 2008).

Umniah’s services, which are targeted at Jordan’s youth and low-income groups, include mobile phone and internet connection services. It was the first mobile operator in Jordan to offer per-second billing to its subscribers (Umniah, 2008).

4. Xpress
Xpress became the third private mobile company in Jordan when it launched its wireless and mobile services in June 2004. Xpress claims to be the first Arab company to offer a new form of telecommunication solutions based on the integrated digital enhanced network technology which combines the abilities of ordinary mobile phones with those of instantaneous direct connect (walkie-talkie) services (Xpress, 2008).

Xpress currently has over 200 employees, 98% of whom are Jordanian. The national network covers 95% of populated areas (Xpress, 2008). In December 2007, Xpress subscribers represented a 1.3% market share (TRC, 2008).
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<th>Kea area</th>
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<tr>
<td>The reasons for the implementation of the</td>
<td>The ISO 9001:2000 standard</td>
<td>Continual improvement</td>
<td>A good image for the company</td>
<td>Continual improvement</td>
<td>A market tool. Desired by the top management</td>
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<td>A market tool. Desired by the top management</td>
<td>Desired by the top management</td>
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<td>ISO 9001:2000</td>
<td>- Why did your organisation decide to go for ISO 9000 certification?</td>
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<td>- What is the need for a quality system in your company?</td>
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<td>A good image for the company.</td>
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<td>For competition reasons. Desired by the top management</td>
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<td>The benefits of the implementation of the</td>
<td>Do you feel that the organisation has received the intended benefits?</td>
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<td>TM 4</td>
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<td>MM 4</td>
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<tr>
<td>ISO 9001:2000</td>
<td>- How has ISO 9001:2000 certification affected the company’s aim and objectives?</td>
<td>Standardisation of internal procedures</td>
<td>Improvement of the work in the company</td>
<td>Standardisation of internal procedures</td>
<td>Transparency in human resources management</td>
<td>Improvement of the work. Other quality certification</td>
<td>Some departments ask the quality department to internally audit their departments from time to time</td>
<td>Improvement of the work. Other quality certification</td>
<td>Improvement of the work. Other quality certification</td>
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<td>External auditing becomes easier for employees</td>
<td>Improvements in documentation and staff trustworthiness</td>
<td>No benefits except the improvement of internal procedures</td>
<td>No benefits except the improvement of internal procedures</td>
<td>No benefits except the improvement of internal procedures</td>
<td>Better communications between staff and work processes</td>
<td>No benefits except the improvement of internal procedures</td>
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<td>No benefits but more work procedures and processes</td>
<td>Better communications between staff and work processes</td>
<td>No benefits but more work procedures and processes</td>
<td>Better communications between staff and work processes</td>
<td>No benefits except the improvement of internal procedures</td>
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<th>Kea area</th>
<th>The Questions</th>
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<td></td>
<td>Knowledge, awareness and requirements and quality issues</td>
<td>Attended workshops and training courses about the implementation of ISO. Needs refresher courses on ISO issues</td>
<td>Attended workshops and training courses about the implementation of ISO. Needs refresher courses on ISO issues</td>
<td>Attended workshops and training courses about the implementation of ISO. Due to time constraints he attended only one course last year.</td>
<td>Attended workshops and training courses about the implementation of ISO. Needs refresher courses on ISO issues</td>
<td>attended only one course last year.</td>
<td>Attended workshops and training courses about the implementation of ISO. Needs refresher courses on ISO issues</td>
<td>attended only one course last year.</td>
<td>Attended workshops and training courses about the implementation of ISO. Needs refresher courses on ISO issues</td>
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<td>- Have you received any training related to ISO 9000 standard?</td>
<td>- What is your knowledge about ISO 9000 standard?</td>
<td>- Was the purpose of obtaining ISO 9001:2000 certification understood among employees before, during and after getting the certification?</td>
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<td>Attended workshops and training courses about the implementation of ISO. Needs refresher courses on ISO issues which enhance the understanding of the certificate</td>
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<td>Attended workshops and training courses about the implementation of ISO. The ISO certification is for quality Issues</td>
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- 260 -
The employees have enough authority and empowerment. Any employee can meet any of top management and discuss with him any idea and he will get the full support to do it after the approval.

He agreed that some authority and empowerment has been granted from top management. The top management provided the human and financial resources, high quality machines and the information technology where needed.

He has power and authority up to 50 JD to deal with mistakes in customer’s bills and statements.

My manager doesn’t give me any empowerment or authority even if he is outside the company.

While there is some empowerment and delegation of authority to some employees in some departments, this did not mean that there was a general empowerment or delegation of authority to shop floor employees.

He did meet with some managers to inform them about how he could improve his work, but at the end his suggestions were not considered.

While there is some empowerment and delegation of authority to some employees in some departments, this did not mean that there was a general empowerment or delegation of authority to shop floor employees.
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<tr>
<td>Customer satisfaction</td>
<td>Company’s employees were viewed as internal customers and people, government, industries and private sector employees were viewed as external customers and the consultancies companies and stakeholders were viewed as both internal and external customers</td>
<td>I think we manage to achieve customer confidence and satisfaction, because our company is the oldest mobile company but still has the largest market share.</td>
<td>Clients of the company were considered to be part of the company’s capital, since without them the company could not make profits and continue its work. For that we erected excellent antenna towers which provided one of the best communication networks in Jordan</td>
<td>We subdivided the Jordanian mobile market, so that we could present suitable special offers to business people, students, private companies and government institutions. In addition to linked the company’s customers in Jordan with those in other Arab countries where it had branches, such as Saudi Arabia, Iraq, Bahrain and Sudan.</td>
<td>To maintain a good level of customer satisfaction, several meeting took place during the year with all levels of customers.</td>
<td>Working dinners with business people, official meeting with senior people in private and public companies. Several questionnaires were also conducted among students and ordinary customers.</td>
<td>The company sponsored many events in schools, universities, sport events, meals in the Holy month, and songs and festivals, in order to learn more about customers’ need.</td>
<td>The company complete the building of the whole system in the organisation, such as appropriate infrastructure through a good management information system, good technology devices and appropriate staff.</td>
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<td>Who are your customers? Why?</td>
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<td>How does the company provide customer satisfaction?</td>
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<td>Does the company measure customer satisfaction? How? Why?</td>
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<td>How you determine the needs and expectations of your customers to provide satisfaction?</td>
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<td>We had hotline services to handle customer’s complaints and video cameras have been installed in the company’s shops, so that recording can be linked with the quality department’s devices to follow up the situations.</td>
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<td>To maintain a good level of customer satisfaction, several meeting took place during the year with all levels of internal and external customers</td>
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<td>Key processes and instructions</td>
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<td>The decision was to embark on a quality journey and to start with ISO certification as a first step.</td>
<td>We've took the decision to implement ISO certification, then we followed up this decision through the quality department by several means.</td>
<td>We've took the decision to implement ISO certification, then we followed up this decision by regular reports and meetings with all departments and by providing full empowerment and support to the employees.</td>
<td>We spent more than six months discussing how we could work on quality. The discussion took several forms and one of these was to listen to our employees at different levels.</td>
<td>The company started the quality journey in 2000 as a fire fighting exercise. Which means that corrective action was taken after problems arose. Then we built our own quality system which done after 12 hard work months.</td>
<td>The CEO asked the company to implement ISO certification, it was difficult in the beginning to match our work with the quality standards, but after we felt that these quality standards helped us to do our work with minimum efforts.</td>
<td>The work procedures focus on training employees in how to implement ISO standard through internal and external workshops and meetings between the quality department and other departments in the company.</td>
<td>We had general quality steps to follow in their work. These were identified after seminars, workshops and meetings between individual departments and the quality department concerning the company's work on quality standards.</td>
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<td>Are all work procedures and instruction identified? If not, why?</td>
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<td>How did your organisation implement the ISO 9001:2000 certification?</td>
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<td>How long did it take your company to get ISO 9001:2000 certification?</td>
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<td>We find the cause of non-conformance cases, then prepare a plan for corrective action, after that we need to implement the ISO certification.</td>
<td>In fact the ISO standard is additional work in our department because we usually do our work in quality procedures</td>
<td>We had not known the benefits of using quality standards procedures in our work</td>
<td>We worked according to quality procedures before we implement the ISO standard and nothing changed, so we felt that ISO were for the quality certification more that the quality work</td>
<td>We usually discussed our work in departmental meeting to decide the best procedures in doing our work before the quality standards came in</td>
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<td>We should be involved in quality issues because its mentioned in the annual evaluation forms, which encourage employees to adopt the quality issues</td>
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- 263 -
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<td>One barrier happened during the implementation of ISO standard is how we could reach a balance between the achievements of the company goals in speedy time and in competitive environments on one hand and the requirements of the ISO standards on the other hand.</td>
<td>Top management commitment. And providing the human and financial resources and the appropriate machines and the information technology systems needed. Also, the cooperation of employees at different management levels without any problems because these employees would have to follow all procedures in implementing ISO standard.</td>
<td>Top management commitments. If they want they could facilitate any thing to achieve this goal.</td>
<td>Top management commitments. If they want they could facilitate any thing to achieve this goal.</td>
<td>The fairness of the new system regardless of the replacement of staff. Especially there is the annual evaluation which assessing our work in terms of quality requirements.</td>
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<td>One barrier happened during the implementation of ISO standard was the combination between the long-term objectives of the company, which sometimes affect the requirements of ISO 9001.2000 standards, with customer satisfaction.</td>
<td>The ISO standards are additional work that we should do to fulfill its requirements.</td>
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<td>The fairness of the new system regardless of the replacement of staff. Especially there is the annual evaluation which assessing our work in terms of quality requirements.</td>
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<td>When the company decided to go for obtaining the ISO certification, we provided all facilities, resources and systems needed to reach this aim.</td>
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<td>- What were the barriers that your organisation faced during the certification process?</td>
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<td>- Could you divide these barriers into three parts: before implementing ISO, in the process of implementing ISO and after certification?</td>
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- 264 -
### Overcoming barriers to implementation

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<td>We focused on the ways employees work. So we appreciate the contribution and the efforts of the employees</td>
<td>Intensive meeting with employees in the departments to explain how we could overcome the barrier</td>
<td>The company create a reward system to encourage the employees to overcome the barriers</td>
<td>A regular meeting with among top managers and middle managers to study proposals for overcoming the barriers</td>
<td>Our departments work closely to the quality department in the first six months of implementing the certificate to overcome the barriers directly</td>
<td>By training courses we could overcome the barriers and one of them was the balance between the company work and the ISO requirements</td>
<td>My department has an integrated plan for quality work before, during and after implementing the ISO certificate through the training courses and re-description of the jobs</td>
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<td>Through training and working with scheduled and unscheduled time to inspecting undeclared work and keeping the internal auditing to reach a common mechanism to overcome the barriers found</td>
<td>We keep the awareness of implementing the ISO through a modern information system and managed it and keep sending letters memos and case studies regarding the barriers for implementing</td>
<td>Although we have better ideas to implement the certification but we continue to obey our bosses instruction which some times affected the work and that because sanction system.</td>
<td>Lack of human resources in one of the barriers of implementation but we overcome this barrier through institutional work.</td>
<td>I admitted that sometimes I did not agree with my manager but because of the penalties that I might face is would agree with him and that cause some barriers to implementation.</td>
<td>Good internal communication between the employees can overcome some barriers of implementation especially when the barriers found in other departments</td>
<td>We overcome some barrier through institutional work. Especially that the certification depend highly on documentation processes which is easy to read and follow the unstructured.</td>
<td>Defining the job description and responsibilities, makes employees more accurate to do the work or he will face the sanction system</td>
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<td>Barriers to maintaining ISO 9001:2000 certification</td>
<td>Lack of top management support is one of the main barriers to maintaining the ISO certification.</td>
<td>Keep the procedures in line with requirements which contain some important issues such as: internal communication and the procedures to follow, can be a good point to keep the maintaining of ISO certification.</td>
<td>Keep the procedures in line with requirements leads to continual improvements which leads to further steps in the quality journey and keep the maintaining the ISO certification.</td>
<td>Lack of top management support is one of the main barriers to maintaining the ISO certification.</td>
<td>Consultation companies are one of barriers to maintain the certification because of the competitive among them which lead to poor work.</td>
<td>Prevent action is a necessary in maintaining the implementation of ISO because it always reminded that the employees had to do their job in accordance with the respective work procedures.</td>
<td>Some times some requirements are unnecessary in maintaining the standards and did not constitute a practical approach to the work, so we decided to cancel these requirements along with the ISO consultancy.</td>
<td>Keep training and awareness workshops regarding the procedures and requirements of ISO certification is another way to keep maintaining the ISO certification.</td>
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<td>- What are the barriers that the company faced in maintaining the system?</td>
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<td>- If you had to go through ISO 9001:2000 implementations again, what would you do differently?</td>
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<td>Some times some requirements are unnecessary in maintaining the ISO standards and did not constitute a practical approach to the work, so we decided to cancel these requirements along with the ISO consultancy.</td>
<td>Still the employees culture is one of the important barriers to maintain the ISO certification.</td>
<td>Customer satisfaction is the most important barrier to maintain ISO certification. But what ever you do you will satisfy the customers</td>
<td>Customer satisfaction is the most important barrier to maintain ISO certification. Because without the satisfaction of the customers the company will not work</td>
<td>Customer satisfaction is the most important barrier to maintain ISO certification. Some times the company might not follow the quality procedures if they felt that to do so would not lead to customer satisfaction.</td>
<td>Customer satisfaction is the most important barrier to maintain ISO certification. Customers need more and more every day so you will not meet their satisfaction.</td>
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