



# University of HUDDERSFIELD

## University of Huddersfield Repository

Sawalha, Ihab Hanna

Business Continuity Management and Strategic Planning: the Case of Jordan

### Original Citation

Sawalha, Ihab Hanna (2011) Business Continuity Management and Strategic Planning: the Case of Jordan. Doctoral thesis, University of Huddersfield.

This version is available at <http://eprints.hud.ac.uk/id/eprint/10172/>

The University Repository is a digital collection of the research output of the University, available on Open Access. Copyright and Moral Rights for the items on this site are retained by the individual author and/or other copyright owners. Users may access full items free of charge; copies of full text items generally can be reproduced, displayed or performed and given to third parties in any format or medium for personal research or study, educational or not-for-profit purposes without prior permission or charge, provided:

- The authors, title and full bibliographic details is credited in any copy;
- A hyperlink and/or URL is included for the original metadata page; and
- The content is not changed in any way.

For more information, including our policy and submission procedure, please contact the Repository Team at: [E.mailbox@hud.ac.uk](mailto:E.mailbox@hud.ac.uk).

<http://eprints.hud.ac.uk/>

**Business Continuity Management and Strategic  
Planning: the Case of Jordan**

**IHAB HANNA S. SAWALHA**

**PhD**

**2011**

**Business Continuity Management and Strategic  
Planning: the Case of Jordan**

**By:**

**IHAB HANNA S. SAWALHA**

**A thesis submitted to the University of Huddersfield in  
partial fulfilment of the requirements for the degree of  
Doctor of Philosophy.**

**The University of Huddersfield**

**April 2011**

## **Abstract**

Business Continuity Management (BCM) is a process that focuses on counteracting organizational risk, disasters and crises. Placing Business Continuity Management in the context of Strategic Planning (SP) will help organizations to cope with a wide range of unexpected incidents before, during and after their occurrence. Subsequently, this will help to ensure the long-term survival of an organization.

The aim of this research is to develop an understanding of the significance of placing BCM in the context of SP. This requires studying BCM, its significance, role and practice; Strategic Planning, its significance, purpose and potential vulnerability; the rationale for placing BCM in the context of SP; the factors that are likely to influence placing BCM in the context of SP including driving factors and obstacles; and managers' views of BCM and the placing of BCM in the context of SP.

This research was undertaken in the Jordanian context. Data was collected via interviewer-administered questionnaires which were conducted with general managers and other key managers from Jordanian organizations from the banking, insurance, industrial and services sectors. 110 questionnaires were collected. The questionnaires were followed by 10 semi-structured interviews in order to support the quantitative findings obtained by the questionnaires.

The research findings revealed that 80.9% of the surveyed organizations in Jordan used BCM. Those organizations that used BCM differed to some extent in their practice of BCM. 51.8% of the surveyed organizations had BCM placed in the context of SP. SP was important for achieving organizational purposes including those related to BCM. The approach to BCM, which is adopted in Jordanian organizations, helped to place BCM in the context of SP. There were a number of factors that discouraged some Jordanian organizations from placing BCM in the context of SP. However, there were also a number of factors that encouraged some other Jordanian organizations to place BCM in the context of SP. Managers had positive views regarding BCM. They either agreed or strongly agreed that BCM can be integrated with SP; BCM would help their organizations to cope with various types of disasters and crises if it is integrated with SP; BCM was an integral part of their organizations' approach to risk; and BCM was not an extra burden to their businesses.

**T**o my Father and my Mother,

my Brother,

my Wife and my little Son

Yanal

“May Jesus Christ our Lord Bless them All”

\*\*\*\*\* In the Name of the Father, Son and the Holy Spirit \*\*\*\*\*

## **BIOGRAPHY**

The researcher, Ihab Hanna Salman Sawalha, was awarded a BSc. Degree in Electronics and Telecommunications Engineering from Princess Sumaya University for Technology (PSUT), Jordan in 2002. He was then awarded an MBA degree with “Merit” in Information Technology from Coventry University, United Kingdom in 2006. His research interests include Business Continuity Management, Strategic Management and Marketing Management. The researcher has also a practical experience in ISO17799 and BCM gained from working as an IT security officer in Society General Bank of Jordan - a leading multinational Jordanian bank, as well as a number of other Jordanian Engineering organizations.

## **ACKNOWLEDGEMENTS**

I would like to take this opportunity to thank those individuals who supported and motivated me. Successful completion of this thesis would not have been possible without their guidance, support and motivation. I begin with my father Hanna Sawalha, my beloved mother Amal Baqain, my brother Yazeed, my wife Jumana, and my gift from the Lord; my little son Yanal. They have been a great source of support and inspiration in the face of all the difficulties I went through during the period of the PhD. I would also like to express my sincere thanks and gratitude to His Beatitude Monsignor Fouad Twal, Roman Catholic archbishop and Latin Patriarch of Jerusalem, and Dr. Victor Billeh the president of the Catholic University of Madaba in Jordan which sponsored my PhD study and the entire living expenses in England. I would also like to express my sincere thanks and gratitude to my supervisors, who were the main driver for my progress, and from whom I received support material, advice and valuable feedback; my thanks go out to Dr. Julia Meaton and Dr. John Anchor, as well as Dr. Jonathan Blacktop who guided me in the process of data analysis. Finally, I would like to thank the University of Huddersfield; this admirable and highly regarded academic institution, which has generously granted me a scholarship for my PhD study, and which I will always be proud of being one of its postgraduates. I wish all the best and prosperity for it and for its entire administrative and academic staff.

## TABLE OF CONTENTS

<b>CHAPTER ONE: INTRODUCTION</b>	<b>11</b>
1.1 Introduction	13
1.2 Overview	13
1.3 Research aim and objectives	16
1.4 Research methodology	17
1.5 Chapter development	19
<b>CHAPTER TWO: ORGANIZATIONAL RISK AND BUSINESS CONTINUITY MANAGEMENT</b>	<b>21</b>
2.1 Introduction	23
2.2 Organizational risk	23
2.2.1 Managing organizational risk	27
2.2.2 Scenario planning	27
2.2.3 Risk management	28
2.2.4 Potential drawbacks of scenario planning and risk management	29
2.2.5 Importance of Business Continuity Management	30
2.3 Business Continuity Management (BCM)	34
2.3.1 An approach to Business Continuity Management	42
2.4 Summary	50
<b>CHAPTER THREE: STRATEGIC PLANNING AND BUSINESS CONTINUITY MANAGEMENT</b>	<b>51</b>
3.1 Introduction	53
3.2 Strategic planning	53
3.2.1 Strategic planning vulnerability	55
3.3 Rationale for placing BCM in the context of SP	58
3.3.1 Organizational culture	62
3.4 Factors influencing the placing of BCM in the context of SP	72
3.5 Summary	75
<b>CHAPTER FOUR: CONCEPTUAL MODEL</b>	<b>76</b>
4.1 Introduction	78
4.2 Development of the research conceptual model	78
4.3 The use of BCM and the existence of an integrated framework for BCM and SP	80
4.4 Existing research regarding BCM practice	80
4.5 Purpose of strategic planning	86
4.6 The steps required in order to place BCM in the context of SP	87
4.7 Factors influencing the placing of BCM in the context of SP	91
4.7.1 Driving factors	91
4.7.2 Obstacles	94
4.8 Managers' views of BCM and the placing of BCM in the context of SP	97
4.9 Summary	98
<b>CHAPTER FIVE: RESEARCH METHODOLOGY</b>	<b>99</b>
5.1 Introduction	101
5.2 Background to research methodology	101
5.3 Research philosophy	103
5.4 Research approach	105
5.5 Research strategy	106
5.5.1 Research design	107
5.5.2 Research time dimension	108
5.6 Data collection methods	109
5.6.1 Interviewer-administered questionnaires	111

5.6.1.1 Sample	114
5.6.1.2 Background to the business environment in Jordan	115
5.6.1.3 Steps in designing the questionnaire	120
5.6.1.4 The translation of the questionnaire	126
5.6.1.5 Questionnaire contents	129
5.6.1.6 Response rate	134
5.6.2 Semi-structured interviews	137
5.6.2.1 Sample	138
5.6.3 Validity and reliability	140
5.6.3.1 The validity of data collection method	140
5.6.3.2 The reliability of data collection method	141
5.7 Statistical methods used for data analysis	144
5.7.1 Descriptive statistics	144
5.7.2 Inferential statistics	114
5.8 Summary	148
<b>CHAPTER SIX: PRESENTATION, ANALYSIS, AND DISCUSSION OF THE FINDINGS</b>	<b>149</b>
6.1 Introduction	151
6.2 Characteristics of respondents and their organizations	152
6.3 Check for non-response bias	159
6.4 The use of BCM and the existence of an integrated framework for BCM and SP	161
6.5 The practice of Business Continuity Management	173
6.5.1 The person/groups conducting BCM	173
6.5.2 The duration for which BCM has been practised	180
6.5.3 The maturity of BCM	185
6.5.4 The responsibility for BCM	190
6.5.5 The business areas (i.e. participants) involved in BCM	194
6.5.6 The comprehensiveness of BCM	198
6.5.7 The effectiveness of the BCM approach	202
6.5.8 Interview findings regarding BCM practice in Jordanian organizations	206
6.6 Purpose of strategic planning	209
6.6.1 Questionnaire findings	209
6.6.2 Interview findings	213
6.7 The steps required in order to place BCM in the context of SP	215
6.7.1 Questionnaire findings	215
6.7.2 Interview findings	223
6.8 Factors influencing the placing of BCM in the context of SP	225
6.8.1 Questionnaire findings	225
6.8.2 Interview findings	232
6.9 Managers' views of BCM and the placing of BCM in the context of SP	234
6.10 Linking the research conceptual model with the research findings	240
6.11 Summary	243
<b>CHAPTER SEVEN: CONCLUSIONS</b>	<b>244</b>
7.1 Introduction	246
7.2 Summary of the key findings of the research	246
7.2.1 The use of BCM and the existence of an integrated framework for BCM and SP	246
7.2.2 The practice of BCM	247
7.2.3 Purpose of strategic planning	247
7.2.4 The steps required in order to place BCM in the context of SP	248
7.2.5 Factors influencing the placing of BCM in the context of SP (obstacles and drivers)	248
7.2.6 Managers' views of BCM and the placing of BCM in the context of SP	248
7.3 Contributions to knowledge	249
7.4 Limitations of the research	252
7.5 Areas for further research	253
7.6 Recommendations for organizations arising from the research findings	255



<b>REFERENCES</b>	<b>257</b>
<b>APPENDIXES</b>	<b>285</b>
<b>Appendix -1-</b> Research Questionnaire Covering Letter	286
<b>Appendix -2-</b> Covering Letter	287
<b>Appendix -3-</b> Research Questionnaire	289
<b>Appendix -4-</b> Interview Questions	300
<b>Appendix -5-</b> Responses to all interview questions according to each respondent	301
<b>Appendix -6-</b> Geographical Map of Jordan	310

### **LIST OF FIGURES**

<b>FIGURE</b>	<b>PAGE</b>
(1.1): Chapter development	20
(2.1): Typology of continuity approaches	38
(2.2): The ability to recover vs. maturity of the planning for business continuity	49
(3.1): An integrated enterprise-wide BCM model	67
(3.2): Areas involved in BCM	68
(3.3): A framework for BCM	69
(3.4): A framework for BCM	70
(3.5): The ‘Design for Resilience’ approach	71
(4.1): The research conceptual model	79
(4.2): Typology of continuity approaches	83
(5.1): The research methodology	102
(5.2): Quantitative and qualitative aspects of decision-making	110
(6.1): Bar chart of respondent titles	153
(6.2): Bar chart of the number of employees	154
(6.3): Bar chart of the number of years an organization had been involved in SP	155
(6.4): Bar chart of the age of the organization	156
(6.5): Bar chart of industry sector	157
(6.6): Bar chart: average level of risk associated with each industry sector	158
(6.7): Bar chart: organizations used BCM	163
(6.8): Research conceptual model	242

## LIST OF TABLES

<b>TABLE</b>	<b>PAGE</b>
(5.1): Positivism and phenomenology compared	103
(5.2): Number of responding organizations in terms of sector	139
(5.3): Reliability statistics using Cronbach's Alpha	143
(6.1): Respondent titles	152
(6.2): Number of employees (size of the organization)	154
(6.3): Number of years an organization had been involved in SP	155
(6.4): Age of organization	156
(6.5): Industry sector (type of business)	157
(6.6): Ownership of organizations	157
(6.7): Number of respondents and non-respondents	160
(6.8): Outcomes of the Chi-square test	160
(6.9): Use of BCM	161
(6.10): Existence of an integrated framework of BCM and SP	163
(6.11): Group 1 organizations	165
(6.12): Group 2 organizations	165
(6.13): Group 3 organizations	165
(6.14): Group 1: organizations according to industry sector	166
(6.15): Group 2: organizations according to industry sector	166
(6.16): Group 3: organizations according to industry sector	166
(6.17): Use of BCM and sector crosstabulation	167
(6.18): Use of BCM and size crosstabulation	170
(6.19): Use of BCM and age crosstabulation	171
(6.20): The person/groups conducting BCM	173
(6.21): Chi-square test: The person/groups conducting BCM by sector	174
(6.22): Chi-square test: The person/groups conducting BCM by size	175
(6.23): Chi-square test: The person/groups conducting BCM by age	175
(6.24): Chi-square test: The person/groups conducting BCM by the level of risk associated with the organization's type of business	176
(6.25): The importance of having a fully comprehensive and integrated BCM	177
(6.26): When do you intend to produce a fully comprehensive/integrated BCM	178
(6.27): If BCM is not fully comprehensive and integrated, which statement(s) describes your organization's decision not to have fully comprehensive and integrated BCM?	178
(6.28): The duration for which BCM has been practised	180
(6.29): Chi-square test: The duration for which BCM has been practised by sector	181
(6.30): Chi-square test: The duration for which BCM has been practised by size	183
(6.31): Chi-square test: The duration for which BCM has been practised by age	183

(6.32): The maturity level of BCM	185
(6.33): Chi-square test: The maturity of BCM by sector	187
(6.34): Chi-square test: The maturity of BCM by size	188
(6.35): Chi-square test: The maturity of BCM by age	188
(6.36): Responsibility for BCM	190
(6.37): Chi-square test: The responsibility for BCM by sector	191
(6.38): Chi-square test: The responsibility for BCM by size	192
(6.39): Chi-square test: The responsibility for BCM by age	192
(6.40): The business areas (i.e. participants) involved in BCM	194
(6.41): Correlation between size of the organization and the participants involved in BCM and age of the organization and the participants involved in BCM	196
(6.42): Kruskal-Wallis test: the participants involved in BCM by type of sector	197
(6.43): The comprehensiveness of BCM	198
(6.44): Correlation between size of the organization and the comprehensiveness of BCM and age of the organization and comprehensiveness of BCM	200
(6.45): Kruskal-Wallis test: The comprehensiveness of BCM by sector	200
(6.46): Importance of BCM activities	202
(6.47): Correlation between size of the organization and the effectiveness of the BCM approach and age of the organization and effectiveness of the BCM approach	204
(6.48): Kruskal-Wallis test: The effectiveness of the BCM approach by industry sector	205
(6.49): Importance of SP in achieving various organizational purposes	209
(6.50): The correlation between the purposes of SP and the size of the organization, number of years the organization has been involved in SP and the age of the organization	211
(6.51): Kruskal-Wallis test: purposes of SP by industry sector	212
(6.52): Chi-square test: The existence of an integrated framework for BCM and SP and BCM being the responsibility of senior management in Jordanian organizations	215
(6.53): Chi-square test: The existence of an integrated framework for BCM and SP and the level of participation of all departments in BCM in Jordanian organizations	217
(6.54): Chi-square test: The existence of an integrated framework for BCM and SP and the comprehensiveness of BCM	219
(6.55): Chi-square test: The existence of an integrated framework for BCM and SP and the effectiveness of the BCM approach adopted	221
(6.56): Factors influencing the integration of BCM with SP	225
(6.57): Discouraging factors (obstacles)	228
(6.58): Encouraging factors (drivers)	230
(6.59): Managers' views of BCM and the placing of BCM in the context of SP	234
(6.60): Kruskal-Wallis Test: respondent views in terms of their backgrounds	236
(6.61): Summary of the influence of sector on the variables examined in this research	238

# **CHAPTER**

# **1**

## **INTRODUCTION**

# Contents

1.1 Introduction	13
1.2 Overview	13
1.3 Research aim and objectives	16
1.4 Research methodology	17
1.5 Chapter development	19

## **1.1 Introduction**

Chapter one provides an introduction to the research and is divided into four sections. Section 1.2 provides a general overview of the research. Section 1.3 presents the research aim and objectives. Section 1.4 provides a brief discussion of the research methodology, and section 1.5 illustrates the chapter development.

## **1.2 Overview**

Despite the fact that risk is considered one of the characteristics of those organizations experiencing dynamic and fast changing business environments, and despite the fact that risk, disasters and crises have the potential to threaten the short and long-term existence of any business organization, organizational risk has received only partial and incomplete attention by strategic management researchers. In general, the number of empirical studies that discuss organizational risk in relation to strategy is small. This limits the spectrum of such studies and drives the two fields apart, and moves the field of organizational risk further from concern and practice (Palmer and Wiseman, 1999; and Ruefli et al., 1999).

Ritchie (2004) noted that further research and empirical work, as well as the development of conceptual frameworks related to risk, disaster and crisis management are needed, and such research is required to be undertaken at a strategic level (i.e. in the context of strategic planning). Ritchie (2004) also noted that there is a need to develop an understanding of the practice of risk, disaster and crisis management using new disciplines and subfields, taking into consideration the cross-disciplinary nature of organizational crisis that calls for an integrative-strategic approach to risk, disaster and crisis management (Sheaffer and Mano-Negrin, 2003).

Pollard and Hotho (2006), Preble (1997), and Mitroff et al. (1992) have highlighted that crisis management and strategic management have been evolving separately over the last few decades and few scholars have attempted to investigate the common ground between the two. Therefore, such studies focused on developing an understanding of the significance of integrating crisis management with strategic management as a way to improve organizational resilience against risk, disasters and crises.

Since crisis management can be considered the roots of Business Continuity Management (BCM), and since the two terms are becoming increasingly interchangeable, as Elliott et al. (2010) and Herbane et al. (2004) have noted, developing an understanding of BCM – which has emerged in the early 2000s as a new corporate approach to risk, disaster and crisis management (Herbane et al., 2004; Gallagher, 2003) - as a strategic process seems to be necessary. This is because few empirical studies have been undertaken to investigate such an issue. In addition, these few empirical studies are considered only basic and initial examinations (Herbane et al., 2004).

Wong (2009) also noted that the role of BCM at the executive level has not been well-discussed in the literature. Much of the focus to date has emphasized BCM as a reactive approach towards organizational crisis; that is to say, disaster recovery. He also added that more research that focuses on BCM, its practice and what it encompasses is needed since BCM should be seen as a high-level management function that has the potential to play a significant role in achieving organizational success. *“Organizations that adopt BCM in a strategic sense can swiftly recover from crises with little impact on their competitive position”* (Herbane et al., 2004).

Herbane et al. (2004) noted that further research and empirical studies that focus on the strategic role of BCM (i.e. placing BCM in the context of SP) are required since this field of study is still largely under-explored. They also noted that this field has to be explored using organizations from different contexts and sectors. Furthermore, the existing literature indicates that a large proportion of the research in the field of BCM is related more to the IT function than other business areas. This is due to the fact that BCM has been considered for many years as an IT issue and resided in the IT department. At the beginning of the 2000s, BCM started to gain a new perspective, when other business areas started to take part in business continuity. However, despite this shift in the approach to BCM, the IT influence can still be clearly noticed in the literature of BCM (e.g. Gill, 2006; Gibb and Buchanan, 2006; Botha and Solms, 2004; and Gallagher, 2003). Fewer efforts have been undertaken to highlight BCM as an enterprise-wide activity.

The Ernst and Young 2008 Global Information Security Survey revealed that for many organizations, the primary responsibility for BCM remains with IT, where 41% of the respondents indicated that BCM is still the responsibility of the IT function and department (Ernst & Young, 2008a). This also explains why a considerable proportion of the existing research in the field of BCM is IT oriented. It also explains the rarity of empirical research which discusses BCM from enterprise-wide and strategic point of views, and the rarity of empirical studies that examine the practice of BCM in relation to corporate characteristics, such as size and age of the organization and industry sector. What is required is to: “*elevate BCM to the strategic arena and encourage far more strategic thought among its practitioners*” (Royds, 2006). “*Good practice suggests that firms should place BCM at the very centre of a firm’s cultural and strategic objectives*” (Booth, 2003).

Therefore, this research responds to the calls of a number of Business Continuity Management researchers who have highlighted the significance of developing a better understanding of the BCM practice and the significance of placing BCM in the context of Strategic Planning in order to achieve an integrated-strategic framework for BCM and SP that aims to provide an enterprise-wide capability of resilience against potential organizational risks, disasters and crises.



### **1.3 Research aim and objectives**

This research aims to develop an understanding of the significance of placing BCM in the context of Strategic Planning (SP) (i.e. the significance of integrating BCM with SP in one framework). This requires studying the following: firstly, Business Continuity Management, its significance, role and practice; secondly, Strategic Planning, its significance, purpose and potential vulnerability; thirdly, the rationale for placing BCM in the context of SP; and finally, the factors that are likely to influence placing BCM in the context of SP. In order to achieve the research aim, the following objectives were created:

**1.** Investigate the use of BCM and the existence of an integrated framework for BCM and SP in Jordanian organizations.

**2.** Examine the practice of BCM in Jordanian organizations by investigating the following aspects:

the person/groups conducting BCM;

the duration for which BCM has been practised;

the maturity of BCM;

the responsibility for BCM;

the business areas (i.e. participants) involved in BCM;

the comprehensiveness of BCM;

and, the effectiveness of the BCM approach.

**3.** Examine the purpose of SP in Jordanian organizations.

**4.** Examine a number of steps that are required in order to place BCM in the context of SP.

**5.** Examine the factors that are likely to drive (i.e. encourage) or obstruct (i.e. discourage) placing BCM in the context of SP within Jordanian organizations.

**6.** Report managers' views of BCM and the placing of BCM in the context of SP.

## **1.4 Research methodology**

The methodology used in this research (discussed in detail in chapter five), was divided into three stages:

The first stage involved the selection of the research philosophy, approach, strategy, time horizon and data collection methods. The research philosophy, which reflects the way knowledge is developed, was derived from a positivistic paradigm. Adopting a positivistic context implies measuring the characteristics of the social world using quantifiable observations that can be analyzed statistically. Thus, the research was based on a deductive approach, employed a survey strategy, was cross-sectional and used a questionnaire as the main data collection instrument. The questionnaire survey was followed by 10 semi-structured interviews.

The second stage involved performing the empirical study which was conducted in Jordan during the period 1<sup>st</sup> February 2009 to 1<sup>st</sup> May 2009 using interviewer-administered questionnaires. The study sample consisted of 274 organizations from four sectors; banking, services, industrial and insurance. All of those organizations were registered with the Amman Stock Exchange. A questionnaire was used for the purpose of this research for quantitative data collection. In addition, 10 semi-structured interviews were conducted after administering the questionnaires with ten respondents from ten organizations from the same sample. The interviews were used to probe answers and support the findings of the questionnaires.

Before carrying out the empirical work, the questionnaire was piloted. A number of drafts were produced and distributed among professional personnel for the purpose of correcting possible mistakes and allowing further insight into the questionnaire contents. Those people were members of the academic staff at the University of Huddersfield, as well as a number of lecturers who have practical and academic experience related to the research topic. After that, the questionnaire was sent to 10 Jordanian organizations that were selected from outside the study sample as a part of the piloting stage and in order to ensure the practicality of the questionnaire and its ability to collect the required data and achieve the research objectives and its expected outcomes.

The third stage involved presenting the findings and analyzing the data. In this stage, statistical software (SPSS Version 15) which is commonly used by researchers who conduct research in social sciences was used to present and analyze quantitative data obtained by the questionnaire. SPSS allows performing descriptive and inferential statistics. External and internal validity were established and reliability was tested. Qualitative data obtained by the semi-structured interviews was presented and analysed using descriptive analysis.

## 1.5 Chapter development

**Chapter one:** Introduction. The aim of chapter one is to provide an overview to the research. It also introduces the research aim and objectives, methodology and chapter development.

**Chapter two:** Organizational Risk and Business Continuity Management. Chapter two provides a background to organizational risk and the approaches used by organizations to manage risk. Next, it discusses the weaknesses and drawbacks of these approaches in order to highlight the significance of Business Continuity Management (BCM). Then, it introduces BCM and discusses its role, significance, components and approach.

**Chapter three:** Strategic Planning and Business Continuity Management. Chapter three introduces Strategic Planning (SP) and discusses its significance, purpose and potential vulnerability. Next, it discusses the rationale for placing BCM in the context of SP. Finally, it identifies the factors that are likely to drive, as well as the factors that are likely to obstruct placing BCM in the context of SP.

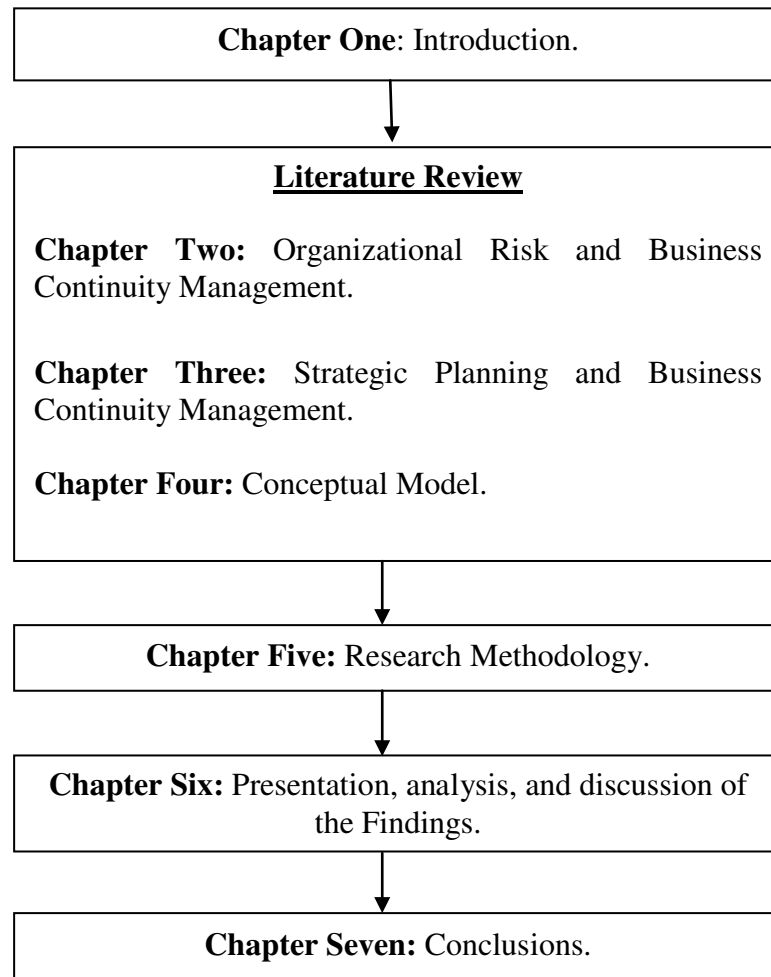
**Chapter four:** Conceptual Model. The aim of chapter four is to introduce the research conceptual model and to discuss the different aspects related to it and show how these aspects will be examined empirically in relation to the research objectives.

**Chapter five:** Research Methodology. The aim of chapter five is to discuss the methodology used in this research. This includes the selection of the research philosophy, approach, strategy, design, time dimension, data collection methods, sample and population. It also discusses issues of validity and reliability and the selection of the statistical tools for data analysis.

**Chapter six:** Presentation, Analysis, and Discussion of the Findings. The aim of chapter six is to present and analyze the findings of the empirical study that was conducted in Jordan and to discuss these findings in relation to the research objectives and in context of the existing literature and research conducted in the same field.

**Chapter seven:** Conclusions. The aim of chapter seven is to provide a summary of the key findings of the research; discuss the contributions to knowledge made by this research; discuss the research limitations; suggest areas for further research; and provide recommendations for organizations arising from the research findings.

**Figure (1.1):** Chapter development.



# **CHAPTER**

# **2**

## **ORGANIZATIONAL RISK AND BUSINESS CONTINUITY MANAGEMENT**

## Contents

2.1 Introduction	23
2.2 Organizational risk	23
2.2.1 Managing organizational risk	27
2.2.2 Scenario planning	27
2.2.3 Risk management	28
2.2.4 Potential drawbacks of scenario planning and risk management	29
2.2.5 Importance of Business Continuity Management	30
2.3 Business Continuity Management (BCM)	34
2.3.1 An approach to Business Continuity Management	42
2.4 Summary	50

## **2.1 Introduction**

In this chapter, a review of the literature is presented in order to provide a theoretical background and to develop an understanding of the significance and role of Business Continuity Management as an enterprise-wide process that aims to counteract organizational risk, disasters and crises, which is at the centre of this research. This is done as follows: Section 2.2 discusses organizational risk, disasters and crises in order to provide a better understanding of these terminologies. Next, it provides a brief background to the significance of managing organizational risk and provides an overview of some of the common approaches used by organizations to manage risk including scenario planning and risk management. It then discusses some of the weaknesses and drawbacks of these approaches in order to make clear of the significance of BCM. Section 2.3 focuses on BCM including its various definitions, its corporate role and significance, key components and approach.

## **2.2 Organizational risk**

Risk has become a major political, technological, and economic construct of the 21<sup>st</sup> century (Smith et al., 2002). It is an inherent part of any organization and covers many aspects of organizational activity and may exist at all management levels (Noy and Ellis, 2003; Gatti and Vagnani, 2002; Tchankova, 2002). Rockett (1999) noted that there are many definitions for risk; however, there is no commonly accepted one. Risk is defined as: *“the possibility of an outcome that is less favourable than the expected outcome”* (Herring, 1983). The Committee of Sponsoring Organizations defined risk as: *“the possibility that an event can adversely affect the achievement of an objective”* (Aghili, 2010). In an organizational context, risk is the possibility that an event can adversely affect the achievement of the objectives of an organization.

Risk affects almost every type of business, as well as personal activity (Barrese and Scordis, 2003). Al-Khattab (2006) and Barrese and Scordis (2003) noted that organizations deal with two types of risk; pure and speculative. Pure risk results in loss and damage only, while speculative risk may result in losses or gains. Sources of organizational risk can be internal or external with respect to an organization and its business environment (Leitner, 2006). That is to say, risk arises from the internal or the external business environment. Most importantly, the more volatile the environment is, the higher the inherent organizational level of risk becomes (Jeppesen, 2007).



Today, the global business environment and global conditions are becoming much more turbulent and unpredictable. Such global conditions, as well as the rapid technology advancements and social dynamics affect almost all people and organizations around the world (Pollard and Hotho, 2006; Mitroff, 2004; O'Regan and Ghobadian, 2002; Proctor, 1997). The requirements of business long-term survival are becoming much more complicated due to the process of globalization which was associated with the need for establishing new global supply chains and business partnerships (Zekos, 2004; Ritchie, 2004). Moreover, the worldwide openness through media, internet and transportation, alongside the weaknesses of some political systems exposed many countries to new risks, such as terrorism, crime and disputes with authorities. Crime and fear of crime can have many implications not just on countries, but also, on organizations. For example, the disruption to the transport system in London caused by the bomb attacks of the 7<sup>th</sup> and 21<sup>st</sup> of July 2005 were estimated to cost the U.K. in excess of £3 billion (Scanlan, 2006). In addition, the deterioration of ecological systems, rising levels of Carbon Dioxide, and the pollution of the world's water supplies can have unfavourable impacts on many organizations. Other natural hazards, such as hurricanes, volcanoes and flooding will also have significant impacts on societies and businesses (Brazeau, 2008; Strategic Direction, 2008; Glenn and Gordon, 2002). The eruption of the Iceland volcano in 2010, for instance, caused interruptions and discontinuity of operations and critical functions in the aviation industry and resulted in huge financial losses even to the most reputable airlines (Peter, 2010). Moreover, organizations are also exposed to risk arising from inside, that is to say, from the internal business environment. This type of risk is referred to as "*business risk*" and is fundamental to the organization and is inherent in its operations (Fatemi and Luft, 2002).

Most importantly, Figenbaum and Thomas (1986) argued that risk can develop quickly into a disaster or crisis if it is neglected or if it is not managed effectively. "*Mistakes can rapidly escalate from an operational issue to a level that has strategic implications and finally to those that threaten survival*" (Mittelstaedt, 2004). What could make things worse is that a disaster in one organization may cause a similar disaster in other organization(s) (Borodzicz and Hills, 1997). For instance, a disaster caused by a failure in an electronic data interchange system in one organization may stimulate or cause similar disasters to take place in other organizations (Heikkinen and Sarkis, 1996).

There are many definitions for a disaster. However, there is no universally accepted one (Rockett, 1999). A disaster is an *incident* that affects people, societies and organizations and causes destruction to buildings and structures and results in human casualties and severe injuries (Shaluf et al., 2003; Rockett, 1999). What distinguishes disasters is that they are visible and tangible. Rockett (1999) also argued that disasters are two types; man-made and natural. Man-made disasters are also two types; social and technical. Fortune and Peters (1995) noted that the significance of any disaster lies in the number of the casualties it causes, the economic impact and social destruction or its occurrence as a part of series of multiple disasters. Shaluf et al. (2003) added that disasters involve instantaneous and maintained procedures and management problems dealt with under conditions of major interruption and emergency situation that may result in injury, damage and loss of life and property. The Business Continuity Planning Guide (1998) also mentioned that disasters require large-scale measures to counteract their impacts.

A “disaster”, however, is not a “crisis” in spite of the fact that the two terms are often used interchangeably (Shaluf et al., 2003; Rockett, 1999). Organizational crisis has been discussed in the literature and has been defined in variety of ways. However, there is no universally accepted definition (Simola, 2005). A crisis is an abnormal *situation* which may be associated with unfamiliar and high level of risk that might impact people, societies and organizations; if not managed carefully, it can easily develop to a disaster and cause destruction, human fatalities and severe injuries. Pearson and Clair (1998) defined organizational crisis as: “*a low probability, high impact event that threatens the viability of the organization and is characterized by ambiguity of cause, effect and means of resolution*”. Such definitions of crisis reflect common themes including their unpredictable nature, and the ambiguity of their cause and effect. Crises have the potential to cause harm to an organization, and if not managed in a timely way, can develop into disasters. Therefore, crises have to be confronted using all the available resources in order to sustain a way of life which normally starts degrading during the crisis (Borodzicz, 2004; Shaluf et al., 2003).

An example of a disaster is the 9/11 terrorist attacks that occurred in the U.S. in 2001. Those attacks represented a large-scale terrorist activity which had destructive impacts on people, society and organizations. These unexpected events have changed the entire world, and phrases, such as: “*new era*” and “*our lives will never be the same*” have

become familiar (Pillar, 2001). The degree of sophistication and coordination of these attacks were considered major developments in terrorism and introduced a new type of global risk that must be confronted using all available resources and human efforts (Kondrasuk, 2005; Castillo, 2004; Carton, 2001).

An example of organizational crisis can be seen in the airline industry following these attacks. Following the 9/11 events, airlines (both in the U.S. and abroad) experienced a huge financial crisis. Initially, there was a fall in the number of airline passengers and many switched to other modes of transportation, such as sea and road transportation in order to avoid the risk of air travelling. Those continuing to use air transport faced many restrictions regarding their flights which reduced the flexibility of travelling (Ito and Lee, 2005). A further crisis was the huge financial losses international tourism experienced. International tourism declined considerably due to the fall in the number of airline passengers worldwide. The impacts extended beyond activities directly associated to tourism, but also to include hotels and other catering services organizations (Blake and Sinclair, 2002/7).

Today, people live in rapidly changing environments. Therefore, those organizations which plan and prepare for future are more likely to survive (Regester and Larkin, 2005). Many organizations recognize that in order to survive in an era of rapid change, they should forecast the surrounding environment in order to increase their awareness of the risks that might influence their businesses and strategic direction (Fink et al., 2005; Saxby et al., 2002). Csiszar (2008) affirmed that risk and uncertainty are positioned at the core of the management process. Organizations may possibly fail without managing risk and uncertainty. They will stumble from crisis to crisis, and eventually, they are less likely to survive. Disasters and crises may possibly occur at any time at any level within an organization and anywhere and may vary with respect to their level of impact (Zalud, 2008; Galloway and Funston, 2000). This is because disasters and crises are unexpected in their nature (Parsons, 1996). When an unexpected event occurs, organizations have little chance to respond and recover. Therefore, getting an organization prepared and capable of resuming its normal business operations following a disaster or a crisis are considered some of the major goals of senior management (Hanson, 2006; Mostafa et al., 2004).

### **2.2.1 Managing organizational risk**

Issues of managing risk, future thinking and continuity planning are not new. Their origins are as old as life on earth and seem to be inherited in human thinking. Even early living forms, micro organisms, plants and animals, were able to develop biological and physical techniques to sense threats before they approach in order to reduce potential harm. Old civilizations also developed risk strategies in order to shield them from outsiders' invasion and in order to prosper. They realized that they had to be proactive and anticipate unforeseen events in order to protect their agriculture from natural disasters and other risks. For instance, Pharaohs in ancient Egypt dug canals and built dams on the Nile to protect their crops from flooding, and Nabataeans built Petra- located in Jordan- from rock in order to protect themselves from outsiders' invasion (Richardson, 2009; Moore and Lakha, 2004).

Future thinking also helps people and societies to test the validity of their assumptions, assure their expectations are realistic and gain early awareness of potential changes in the surrounding environment in order to improve decisions (Barber 2006). Like in the past, risk continues to disturb human's modern life (Borodzicz, 2005). Since the 1960s, firms started to introduce basic risk management strategies in order to reduce impacts of disasters and crises. These strategies had been adopted until the 1970s. Other firms used to manage risk by transferring it to insurance companies in order to reduce the burden of financial losses (Wieczorek et al., 2002; Barton and Hardigree, 1995). Later firms started to invest in other techniques, such as scenario planning in order to improve future forecasting and planning (Pollard and Hotho, 2006). There follows a brief overview of the most common approaches used by organizations to manage risk.

### **2.2.2 Scenario planning**

Scenario planning, which became popular amongst organizations in the 1970s, in an era of rapid change, is a technique used for planning for different future alternatives for the purpose of reducing or mitigating the risk of being unprepared and getting surprised by unexpected incidents (Bishop et al., 2007; Fink et al., 2005; Watstein, 2003). Kachaner and Deimler (2008) and Walsh (2005) pointed out that those organizations that use scenario planning are likely to deal more efficiently with risk and future uncertainty than those that do not use it. The idea of scenario planning, as described by the JISCInfoNet (2008) and Pollard and Hotho (2006), is to make flexible long range plans by

understanding the nature and impact of the most uncertain driving factors affecting the world and shaping the business environment, such as the political, economic, technological, and environmental forces and trends. For instance, a number of leading organizations, such as General Electric and Shell use scenario planning to explore the different forces and trends which may influence the prices of oil in future. Shell's scenario teams use scenario planning to search for the 'signs' or 'weak signals' that are likely to have influence on their business. Moreover, scenario planning helps to link the past with the future by addressing scenarios in strategic plans. It works best when the participants of the scenario planning effort think innovatively for different futures and focus when creating scenarios in order to set clear goals for each individual scenario and prevent scenario overlapping (Barber, 2006).

### **2.2.3 Risk management**

Egbuji (1999) and Hollman and Forrest (1991) presented risk management as a corporate approach to the problem of deciding on the ways to control threats to the security facing an organisation in order to protect its assets and resources. Belluz (2002) presented risk management as a method of taking advantage of the strengths of an organization and the opportunities arising from the external business environment in order to reduce or mitigate potential threats and future uncertainty. Risk management has a number of advantages. It involves careful analysis of the risks an organization is likely to face in future; improves control of uncertainty and facilitates future anticipation; encourages the development of actions to counteract corporate risks and assesses the cost benefit of these actions; and clarifies the goals of an organization (Peart, 2006; Ralph, 2000). The Association of Insurance and Risk Managers (2002) focused on a strategic approach to risk management. It stated that risk management should be linked to strategy and be considered a value-adding process since it has the potential to protect assets and improve decision making. In project management for instance, risk management helps to understand the weight of various project constraints in order to assess their impact on projects. Risk management in this context involves early prioritization of risk and helps project managers to allocate project resources on the major risks in order to reduce their impacts and cost (Altug, 2002). Tsohou et al. (2006) recognised different approaches to risk management in the literature; however, they argued that the risk management process usually entails three stages: project initiation, risk analysis, and risk mitigation.

#### **2.2.4 Potential drawbacks of scenario planning and risk management**

Despite the advantages that can be gained from using scenario planning, a review of the literature indicates that it has a number of drawbacks. Raspin and Terjesen (2007), Msezane and McBride (2002), O'Brien (2000), Schriefer (1995a), and Schriefer (1995b) were among the researchers who have discussed the drawbacks of scenario planning. Msezane and McBride (2002) thought that scenario planning did not provide an integrated approach to corporate planning and uncertainty management due to a number of weaknesses in the nature of the scenario approach itself including the difficulty in communicating scenarios and the isolation of decision making from scenario planning. In addition, whether or not scenario planning works well within an organization is constrained by a number of factors, such as: nature of business, uncertainty levels of multiple scenarios, size of the problem and its possible scenarios, ownership of the problem, and the skills and commitment of the participants (O'Brien, 2000).

Raspin and Terjesen (2007) added that scenario planning has some weaknesses which affect its wider adoption. First, it requires large investment in resources; second, it is disconnected from the priorities of practicing managers; and third, it can be in isolation of real management decisions. Schriefer (1995a) noted that scenario planning is expensive and requires huge commitment and time. Besides, it is not a common task to ask people to think and innovate for the purpose of creating multiple future scenarios. Schriefer (1995b) described scenario planning as a frustrating experience which may fail to enhance decision making and might have a negative influence on strategic planning. This is due to the lack of decision makers' involvement and commitment to scenario planning; scenarios may become the product of exercise; and scenarios are sometimes difficult to use. Consequently, such drawbacks of scenario planning can hinder its wider acceptance in today's business organizations and in strategy-setting activities (Pollard and Hotho, 2006).

Risk management has also a number of drawbacks that have been addressed in the literature (e.g. Andersen, 2008; Altug, 2002; Starr et al., 2002; Pender, 2001; Nosworthy, 2000; Ralph, 2000; Hillson, 2000; and Rockett, 1999). Risk management is a reactive approach which focuses on insurance claims statistics and draws less attention to risks associated with different business areas (Nosworthy, 2000). It usually focuses only on the way major categories of organizational risk interact at a tactical level (Starr et al., 2002).

This can be misleading since it is far from the entire spectrum of risks and is based on limited sources of data. As an example, Andersen (2008) argued that risk management functions are often associated with corporate finance departments; therefore, they usually fail to incorporate other business functions. This tightens the wider adoption of risk management. Ralph (2000) also described risk management as an administrative burden that requires huge investment in resources and skills in order to identify and analyze risk. Besides, the information required to identify and analyze risk may be difficult to obtain.

Risk cannot be easily identified and the causes and impacts of risk can be distracted by the risk itself (Hillson, 2000). Therefore, an attempt to reduce or mitigate risk based only on measuring risk impact and risk probability of occurrence (which represents the traditional approach to risk management) will not necessarily provide the desired level of protection. In many cases, less significant risks may appear much more threatening, and significant risks may be underestimated or neglected. This is because conventional risk management is based on probability theory which also has a number of drawbacks (Altug, 2002; Pender, 2001; Rockett, 1999). First, probability is based on the assumption of randomness which, in turn, reduces the accuracy of results and produces biased conclusions; second, projects are unique by definition which, in turn, reduces the relevance and reliability of the conclusions derived from a probability-based analysis; third, future scenarios must be communicated to different people; however, the imprecision of human languages and communication skills—which are not addressed in probability theory- may disturb communications, bias conclusions and subsequently affect decisions; and fourth, probability in general is not a guide to the specific future.

### **2.2.5 Importance of Business Continuity Management**

The above discussion showed that there are a number of drawbacks of scenario planning and risk management. These drawbacks may possibly reduce organizations' capability to respond effectively to unexpected events. For example, Ross (2000) noted that many leading financial organizations were exposed to financial losses due to their risk management approaches which were unable to prevent them from incurring financial losses. In addition, conventional risk management models have not kept pace with the shift from centralized to networked enterprises and often failed to take into account links across vertical and horizontal organizational activities and, therefore, drew less attention to many risks that may possibly happen (Starr et al., 2002).

The 21<sup>st</sup> century has seen many changes in the global business environment (Al-Shammari and Hussein, 2008; Smith et al., 2002). Richardson (2009), Dawes (2004), Kubitscheck (2001) and Anderson (2000) also noted that the concept of organizational risk has evolved by the beginning of the new millennium as new risks have emerged, such as cyber crime, reputation risk and terrorism. The newly emerging risks exceed the speed at which solutions are being designed to counteract them (Kubitscheck, 2001). Therefore, *“with the new millennium, terrorist attacks, corporate financial scandals, hi-tech and changing weather patterns, firms require a coherent, well-resourced response...predetermined and integrated, but also flexible and manageable”* (Herbane et al., 2004). Gage and Reinoso (2002) also noted that when times are uncertain and risky, organizations face challenges that can be best managed by proactive planning and preparation.

For example, the findings of an empirical study of Business Continuity Management presented by Zawya- a Middle East IT company- conducted in 2009 by eHosting DataFort- a Middle East IT provider- and the Business Continuity Management Institute, which targeted 75 firms in the Middle East including UAE, KSA, Bahrain, Qatar, Oman, Kuwait and Jordan from the banking, IT, retail, media and entertainment, utilities, oil, and manufacturing sectors, showed that firms in the Middle East need to consider the increasing range of unforeseen events in the region by being proactive in their planning in order to be prepared to deal with interruptions more efficiently (Zawya, 2009). In addition, there is a need to develop a corporate culture capable of managing and taking advantage of disasters and crises (Borodzicz, 2004).

Innovative and adaptive approaches seem to be required in order to help organizations to reduce or mitigate impacts of disasters and crises by proactively managing security programs and by being able to prepare for, respond to and recover effectively from an unexpected event for the purpose of ensuring continuity of business operations (ASIS International, 2005; Hinde, 2002). Moreover, there is a need for approaches that focus on optimizing the availability of all business critical functions at all times, including processes, technology, people, facilities, and communications (Deloitte Touche Tohmatsu, 2002).



In the early 2000s, the interest in BCM has increased considerably (Smit, 2005; Borodzicz, 2005; Gallagher, 2003). Wong (2009), Gallagher (2003), and Alonso and Boucher (2001) argued that man-made and natural disasters, as well as the Y2K crisis and the 9/11 events provided a great boost to BCM and highlighted the significance of BCM in sustaining business critical functions. BCM encompassed preventive and corrective techniques to risk management through continuity and recovery planning and through the continuous training, testing, maintenance and updating of the continuity plans.

The impacts of 9/11 on many businesses were disastrous and many organizations failed to recover from the events on that day. However, those organizations which had BCM were able to demonstrate resilience and had their operations up and running within a few hours/days after the events. For example, Dow Jones had 800 employees on floors 9-12 and 14-16 of the World Trade Centre. All of those employees survived and there was no loss of data or service. This was mainly because Dow Jones had comprehensive and effective BCM (Childs and Dietrich, 2002). Moreover, other organizations like American Express and Merrill Lynch, that also had a large presence in the World Trade Centre, were back in business in hours, due to the fact that they had well-designed business continuity plans. NASDAQ, which also had BCM in place, resumed its business operations in a few days following the events (Hecht, 2002).

Today, business long-term survival highly depends on the assured 24/7 availability of information and the continuity of business operations in a global business environment full of uncertainty. BCM is significant in achieving this assurance (Morwood, 1998). Pitt (2010) also argued that organizations that have BCM are likely to suffer less severely from the initial and immediate impacts of disasters and crises and can recover more quickly and effectively.

The findings of the empirical study presented by Zawya also showed that 76% of organizations in the Middle East are at different phases of the BCM life cycle<sup>1</sup>. The study also showed that, 72% of organizations in the Middle East have continuity documents and 70% of them have fully worked out continuity and disaster recovery plans. *“These results were commendable in a region where BCM is a relatively new concept”* (Zawya, 2009).

---

<sup>1</sup> An approach to BCM, which is also referred to as BCM life cycle is introduced in section 2.3.2.

Another study conducted by FM Global<sup>2</sup> revealed that more than 95% of 600 financial executives surveyed reported that BCM was of moderate or high priority in relation to other management functions within their organizations (Brazeau, 2008). In addition, the profile of BCM has increased noticeably in public and private business organizations. The importance of BCM has been recognized, and recently, it started to gain unprecedented potential in different countries (Strategic Direction, 2008; Gill, 2006; and Smit, 2005). For instance, the findings of an empirical study in the field of BCM in the U.K., conducted by the Civil Contingencies Secretariat and the Chartered Management Institute, revealed that 73% of the respondents reported that BCM was significant to their organizations, and 94% reported that BCM reduced disruption (Strategic Direction, 2008).

Woodman and Hutchings (2010) recommended that organizations of all sizes should have BCM. In addition, Gallagher (2003) argued that BCM should not just be a matter of concern to large organizations, but also to the small and medium sized organizations since they are under continuous pressure from their customers and shareholders to do business online and to expand their operations, which may possibly be associated with higher levels of risk. Gallagher (2003) also argued that in many small and medium organizations, there are many problems that can be caused by people or process failure. Consequently, the result of not having BCM in place may be threatening. BCM can be used in all types of organizations -public and private- and is also becoming increasingly adopted in many sectors including: government departments; public services; local authorities; education; and healthcare. More importantly, and based on the findings of the first European-wide Business Continuity Management survey conducted by Marsh Inc.<sup>3</sup> in 2008, BCM was found to have an increasing acceptance among respondents and many businesses now understand the current operational value of BCM and are starting to draw more attention on the strategic significance and the enterprise-wide advantage of it (Marsh, 2008).

---

<sup>2</sup> FM Global provides global commercial and industrial property insurance, risk management solutions, and property loss prevention research (FM Global, 2010).

<sup>3</sup> Marsh Inc. is an operating unit of Marsh & McLennan Companies, Inc. (MMC), a global professional-services firm (Marsh Inc., 2004).

## 2.3 Business Continuity Management (BCM)

BCM has been defined in a variety of ways in the literature. However, there is no commonly accepted definition (Smit, 2005). The following are a number of these definitions:

The Business Continuity Institute defined BCM as: *“the act of anticipating incidents which will affect mission-critical functions and processes for the organization and ensuring that it responds to any incident in a planned and rehearsed manner”* (Gallagher, 2003).

The British Standard BS 25999-1 defined BCM as: *“a holistic management process that identifies potential threats to an organisation and the impacts to business operations that those threats, if realised, might cause, and which provides a framework for building organisational resilience with the capability for an effective response that safeguards the interests of its key stakeholders, reputation, brand and value-creating activities”* (Woodman and Hutchings, 2010).

The Disaster Recovery Institute defined BCM as: *“the process of developing advance arrangements and procedures that enable an organization to respond to an event in such a manner that critical business functions continue with planned levels of interruption or essential change”* (Foster and Dye, 2005).

BCM was also defined as: *“a holistic management process of identifying potential incidents that threaten an organization and the development of plans to respond to such incidents. It covers a broad spectrum of business and management disciplines, including risk management, disaster recovery and crisis management”* (Spring Singapore, 2005).

A close look at the above definitions reveals a number of key common themes regarding BCM. These themes, which also represent the goals of BCM include: anticipating organizational risks, disasters and crises before they occur; ensuring the continuity of business operations and critical functions at all times and circumstances; preventing and correcting problems; ensuring effective and fast response to disasters and crises; ensuring quick and effective recovery following a disaster or crisis; and ensuring an ongoing and holistic BCM process.

BCM also aims to increase confidence and build an enterprise-wide capability of resilience, which subsequently, will improve the organization's defensive capability against various organizational risks, disasters and crises in order to ensure its long-term survival (Elliott et al., 2010; Garcia, 2008; Koch, 2004). In this context, enterprise resilience is the organizational capability that helps to withstand discontinuities and interruptions facing an organization in order to adapt and survive in new risky and rapidly changing business environments (Starr et al., 2002).

BCM, according to Gibb and Buchanan (2006) and Herbane et al. (2004), involves understanding the organization and its needs; identifying risks that may disrupt business critical functions; managing these risks in order to reduce or mitigate their impacts; and ensuring business continuity and effective recovery following unexpected incidents. BCM also helps organizations to consider the worst possible future scenario; where the organization would be operating following a disaster or a crisis; and how quickly can the organization restore its normal operations. Moore and Lakha (2004) described BCM as proactive (i.e. aims to develop business continuity plans prior to an incident); resource-focused (i.e. aims to ensure the most efficient resources are used); efficiency-focused (i.e. aims to reduce drain of resources); value adding process (i.e. aims to reduce cost of processes and increase levels of efficiency); employs essential services and people; return-to-normal-focused (i.e. aims to help an organization return to its normal state following a disaster or a crisis); time focused (i.e. focuses on short and long term continuity and recovery); focuses on information management; and is top management driven.

Since BCM aims to ensure the long-term survival of the organization as a whole, it should be one of the responsibilities of senior management (Hayes, 2004). The issue of the responsibility for BCM was addressed by Gibb and Buchanan (2006) who emphasized that BCM should be one of the responsibilities of senior management. Moreover, the findings of an empirical study of Woodman (2007) conducted by the Chartered Management Institute in conjunction with the Civil Contingencies Secretariat in the Cabinet Office and Continuity Forum in 2007, with 10,600 individual Institute members from the U.K. from various sectors and sizes showed that the majority of the respondents who practised BCM, reported that BCM was one of the responsibilities of senior management. In 2008, the findings of an empirical study of Woodman (2008) that was

also conducted by the Chartered Management Institute in conjunction with the Civil Contingencies Secretariat in the Cabinet Office and Continuity Forum in 2008, with 10,600 individual Institute members from the U.K. from various sectors and sizes, showed that the majority of the respondents who practised BCM, also reported that BCM was one of the responsibilities of senior management.

Elliott et al. (2010), Kelly (2007), Herbane et al. (2004), Pitt and Goyal (2004), and Gallagher (2003) have discussed the evolution of BCM. During the 1970s, business continuity focused primarily on IT and the continuous operability and recovery of computing systems and the disruptions caused by major disasters, such as man-made, flooding, earthquakes, and fires. In the 1980s, the focus on IT continuity was still obvious; however, business continuity encompassed other facilities and systems at both corporate and business unit levels, and showed compliance to legal and regulatory standards. The focus on IT continuity during the 1970s and 1980s explains why a large proportion of the existing literature of BCM is related to IT continuity more than other business areas and has an IT disaster recovery bias; since for many years, business continuity was seen as an IT issue and the IT function was its main driver (Elliott et al., 2010; Gill, 2006; Gibb and Buchanan, 2006; Botha and Solms, 2004; and Pitt and Goyal, 2004).

In the late 1990s and early 2000s, business continuity was introduced as “Business Continuity Management” and became a value-adding process which contributes to the development and sustainability of a corporate competitive advantage and requires involvement of different business areas and groups of people inside and outside the organizations including employees, customers and external parties. In addition, a new approach to BCM emerged based on compliance to international standards, such as PAS 56; BS 25999; ISO 17799; and Basel II (Tammineedi, 2010; Gallagher, 2005; Decker, 2005). However, even if this approach to BCM promotes the standardization of practice, BCM is still a management activity that is based on common-sense and good practice (Gallagher, 2005).

Like the British Standard BS25999, Herbane et al. (2004) described BCM as a holistic and an enterprise-wide management approach that is concerned with preventing the entire set of social and technical problems that may possibly occur and subsequently disrupt business operations, as well as ensuring effective recovery. Herbane et al. (2004) also

noted that BCM must have an influence over the entire organization. Therefore, it requires a cross-functional involvement and participation from different organizational departments in order to succeed (see figure 2.1).

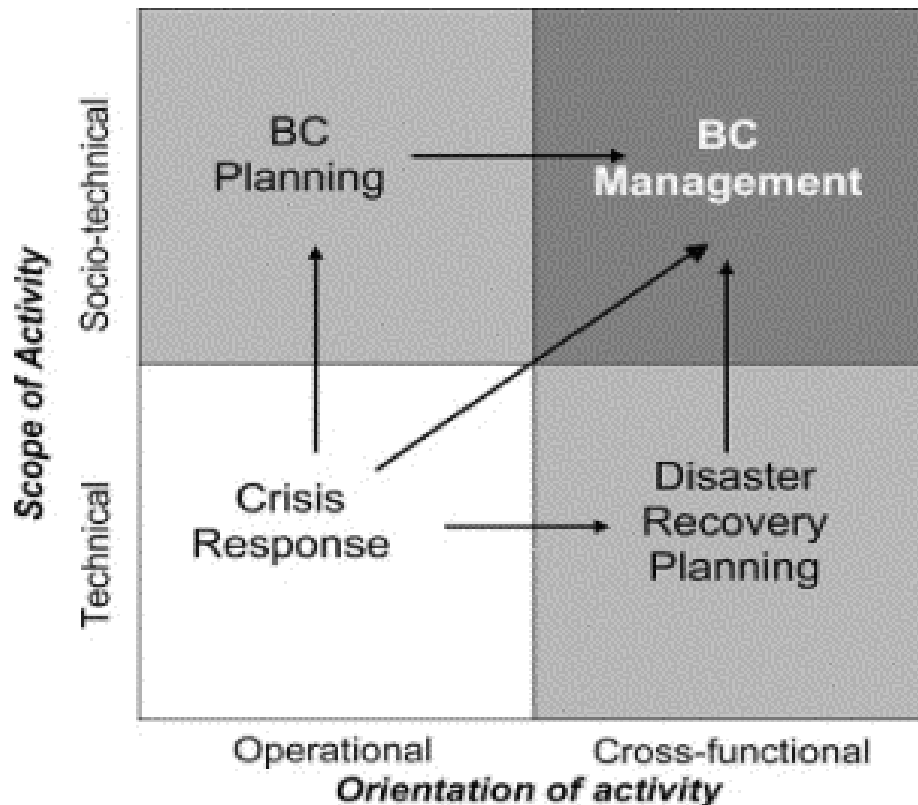
In addition, figure 2.1 shows that BCM has its roots in crisis management<sup>4</sup> (i.e. crisis management is considered the roots of BCM, and the two terms are often used interchangeably) (Herbane et al., 2004). It also shows that BCM consists of two components: business continuity planning and disaster recovery planning. The purpose of these two components is to enable an organization to cope with disasters and crises effectively before, during and after their occurrence in order to provide prevention and recovery (i.e. BCM should enable an organization to cope with disasters and crises proactively and reactively) (Elliott et al., 2010; Herbane et al., 2004). Stanton (2005) also highlighted that business continuity planning and disaster recovery planning are the two aspects of the broader discipline of BCM.

This issue was also addressed by Low et al. (2010); Elliott et al. (2010); Drewitt (2008); Witty (2008); Gibb and Buchanan (2006); Rennels (2006); Fitzsimon (2006); Murakmi et al. (2006); Hayes (2004); Botha and Solms (2004); Gallagher (2003); and Smith (2002) who have highlighted that BCM consists of two components: first, business continuity planning (i.e. the planning for business continuity) which is carried out in order to develop the business continuity plan which includes necessary measures and procedures that enable an organization to prepare and respond effectively to unexpected disasters and crises, before and at the time of their occurrence; and second, disaster recovery planning (i.e. the planning for disaster recovery) which is carried out in order to develop the disaster recovery plan which includes the necessary measures and procedures that enable an organization to recover effectively and quickly following unexpected disasters and crises.

---

<sup>4</sup> Wong (2009) also noted that some argue that BCM has emerged from crisis management. Moreover, crisis management issues, such as: evacuation; search and rescue operations; fire control; first medical aids; dealing with victims; establishing and maintaining shelters and roles of emergency responders are also significant in BCM (Momani, 2010).

**Figure (2.1):** Typology of continuity approaches.



**Source:** Herbane et al. (2004).

Business continuity planning is one component of BCM. Research (e.g. Rozek and Groth, 2008; Wainright, 2007; Williamson, 2007; Botha and Solms, 2004; Pitt and Goyal, 2004; Savage, 2002; Wilson, 2000; Karakasidis, 1997; and Heng, 1996) focused on business continuity planning, which is also known as BCM planning. Botha and Solms (2004) defined business continuity planning as: *“a complete process of developing measures and procedures to ensure an organisation’s disaster preparedness. This includes ensuring that the organisation would be able to respond effectively to a disaster and that their critical business processes can continue as usual”*. Accordingly, business continuity planning involves the development of the business continuity plan which focuses on preparing the organization to respond effectively to an incident at the moment it occurs for the purpose of ensuring continuity of business operations.

Business continuity planning is a significant activity that requires the participation of many business areas (Savage, 2002; Wilson, 2000). It helps an organization to prepare for unexpected disasters and crises, as well as daily operational interruptions in order to prevent or reduce the possibility of such incidents becoming real. It also facilitates the management of such incidents when they occur physically (Cerullo and Cerullo, 2004). The Business Continuity Institute (2008) and Robb (2006) described the planning for business continuity as proactive (i.e. it takes steps to advanced preparations to ensure that no matter what happens, business will not be interrupted).

A business continuity plan is the document that is composed of integrated plans and actions prepared for the purpose of counteracting different types of disruptions (e.g. minimal, moderate and major), as well as the intentional and unintentional disruptions that may possibly impact an organization (The European Network and Information Security Agency, 2008; D'Amico, 2007; Karakasidis, 1997). It usually contains safety procedures for employees, customers and external parties, as well as safety procedures for facilities, buildings and services. It also includes emergency procedures; crisis communications documentation; identification of critical business functions; measures to reduce the probability of risks becoming real; understanding what interruptions might take place if such risks become real; and procedures for reducing the immediate impacts of disasters and crises (Mazengia, 2008; Rozek and Groth; 2008; Pitt and Goyal, 2004; and Heng, 1996).

BCM also aims to assure survival after a disaster (Hofmann, 2000). Therefore, planning for disaster recovery represents the other component of BCM. Stanton (2005) noted that *“there is confusion about the differences between disaster recovery planning and business continuity planning, the expressions are often used interchangeably- but their functions are not, and having a disaster recovery plan is not the same as having a business continuity plan”*. Many senior managers think that business continuity planning and disaster recovery planning are the same thing (CB Staff, 2006; Hinde, 2002).

Childs and Dietrich (2002) stated that disaster recovery planning aims to help an organization to recover from the damage that has already occurred to the infrastructure. It involves creating a disaster recovery plan which contains action plans activated once the immediate effects of a disaster or crisis have passed in order to help the organization recover and resume its normal operations and critical functions. Moore and Lakha (2004)



also argued that disaster recovery planning is about how an organization will start to function as soon as possible following a disaster or a crisis, which involves a complete restoration of the organization and its operations. The success of the disaster recovery plan depends on the speed of recovery following a disaster (Varcoe, 1998).

Research (e.g. Herbane et al., 2004; Tura et al., 2004; Chow, 2000; Doherty, 1998; Edwards, 1994; and Rohde and Haskett, 1990) focused on disaster recovery planning. Doherty (1998) described disaster recovery planning as a reactive process that involves recovering an IT environment. Tura et al. (2004) and Cerullo and Cerullo (2004) also argued that disaster recovery planning is a reactive approach (i.e. a corrective control) that aims to correct error and fix damage after a disaster in order to resume normal operations. In this context, disaster recovery planning differs from business continuity planning, which is a proactive approach (i.e. preventive control) and is concerned with analyzing risk in order to prevent disasters/crises and reduce their impact if they occur. *“Disaster recovery presupposes an event that causes a failure. Continuity suggests the avoidance or at least minimizing the impact of a failure”* (Hecht, 2002). Therefore, business continuity planning and disaster recovery planning complement one another in order to achieve the goal of BCM; that is to provide organizations with preventive and corrective (i.e. recovery) capabilities (Herbane et al., 2004).

Saccomanno and Mangialardi (2008), Toigo (2000) and Kippenberger (1999) argued that disaster recovery planning is concerned more with the IT function of an organization than other business areas. The reason for the focus on IT, as they argued, is that when a disaster or a crisis occurs, the organization’s physical assets, such as buildings, furniture, and facilities can be quickly replaced and recovered. However, corporate data requires more complicated strategies for electronic backup and recovery since the impact of data loss is far-reaching and might result in a loss of customers and corporate reputation.

Although planning for disaster recovery is technical in nature, the literature indicates that it also involves planning for the recovery of other areas. Castillo (2004), Hawkins et al. (2000) and Nemzow (1997) pointed out that in addition to IT recovery, disaster recovery planning involves assessing damage; recovery of people; removing debris; estimating recovery and restoration costs; and supporting orderly recovery. In addition, the Quality Assurance Agency for Higher Education (2006) and Schwartz et al. (2002) pointed out that in order to improve the overall recovery capability; the disaster recovery plan has to

cover a wide range of recovery efforts. Therefore, alongside the IT recovery team(s), there exists team(s) responsible for performing service recovery including: financial recovery; infrastructure and buildings recovery; and people recovery.

In addition to business continuity planning and disaster recovery planning, BCM involves performing other activities. Low et al. (2010), Clas (2008), Selden and Perks (2007), Then and Loosemore (2006), Gibb and Buchanan (2006), Gallagher (2005), Pitt and Goyal (2004), Botha and Solms (2004), Gallagher (2003), Smith (2002), and Nosworthy (2000) all argued that a strategic and effective approach to BCM relies on a number of activities that have to be performed. It also relies on the extent to which BCM plans are trained, tested, maintained, and updated in order to ensure an enterprise-wide BCM and in order to embed BCM organization's culture. This approach involves performing the following activities: project planning; creating teams and assigning roles and responsibilities; performing risk analysis process; performing business impact analysis; developing backup and data recovery strategies; developing the disaster recovery plan; developing the business continuity plan; training; testing; maintaining; and updating the developed plans. Nevertheless, the approach to BCM represents only one aspect of the BCM practice which also includes: the person/groups conducting BCM; the duration for which BCM has been practised; the maturity of BCM; the responsibility for BCM; the business areas (i.e. participants) involved in BCM; and the comprehensiveness of BCM. These aspects will be discussed in chapter four.

### **2.3.1 An approach to Business Continuity Management**

A number of authors have proposed various development frameworks for BCM, each of which highlights particular aspects of it (e.g. Momani, 2010; Tammineedi, 2010; Low et al., 2010; Elliott et al., 2010; Clas, 2008; Selden and Perks, 2007; Gibb and Buchanan, 2006; Ashton, 2005; Gallagher, 2005; Pitt and Goyal, 2004; Botha and Solms, 2004; Quirchmayr, 2004; Moore and Lakha, 2004; Zawada and Schwartz, 2003; Gallagher, 2003; and Nosworthy, 2000). The framework described in this section draws on these approaches<sup>5</sup> and experience in the field. It provides a step-by-step framework for developing and maintaining effective BCM. It consists of the following phases:

#### **a) Project initiation and planning**

The project initiation and planning phase starts by seeking senior management approval and support. Senior management commitment is also crucial in the early stages of BCM (Gibb and Buchanan, 2006; Gallagher, 2005; and Hecht, 2002). As evidence, in their 2010 BCM survey with 15,000 Chartered Management Institute Members, Woodman and Hutchings (2010) recommended that senior management must take ultimate responsibility for BCM from the beginning. Vallender (2009) noted that the lack of support and commitment from senior management may possibly obstruct the success of BCM. The European Network and Information Security Agency (ENISA) (2008) stated that the project initiation and planning phase also involves performing the following activities: setting objectives and timescales; identifying the deliverables and outcomes; setting deadlines and frameworks; defining constraints; and setting budgets and resource capabilities. These activities may sometimes be time-intensive and complicated (Henry, 2006). In addition in this phase, the decision on what business processes and external continuity services that have to be covered by the continuity provision have to be undertaken, as well as deciding on the activities and the human and financial resources that are required to make sure that BCM will be properly planned (Elliott et al., 2010; Botha and Solms, 2004).

#### **b) Creating teams and assigning roles and responsibilities**

In this phase, senior management assigns a person with the appropriate seniority and authority to be responsible for BCM. This person will then select and assign individuals

---

<sup>5</sup> An approach to BCM is also known as BCM “life cycle” and it consists of a number of interactive phases (Gibb and Buchanan, 2006; Quirchmayr, 2004; and Smith, 2002).

to develop and maintain BCM. This person also assigns accountability, roles and ownership to other personnel in order to develop, steer and maintain BCM. Selected people from various business areas who understand the organization –its business, technology, processes and business risks- are also required to create business continuity and recovery team(s) that are responsible for providing the knowledge and the understanding to guide BCM, develop the continuity and recovery plans and to keep these plans current. Most importantly, BCM requires effective and continuous communications between these teams and between teams and the senior management in order to ensure that the requirements of BCM are translated to real actions and remain relevant and current with respect to the changing business environment and corporate activities. Senior management may also assign business continuity co-coordinators within each business unit (i.e. department) who will be responsible for developing and documenting damage assessment, detailed recovery and resumption procedures for their own business areas and who will be responsible for driving BCM at local and departmental levels (Tammineedi, 2010; Elliott et al., 2010; ENISA, 2008; Gibb and Buchanan, 2006; and Moore and Lakha, 2004).

Edwards (1994) argued that the number of teams required for the recovery effort may possibly differ between organizations depending on the size, type of business and availability of resources. However, having several small teams with few clearly defined responsibilities and proper structures (e.g. team leader; deputy team leader and team members) is better than having a single large team that holds all the responsibilities. Moreover, the following teams are also required: command team; standby site activation team; communications team; operations team; administration team; personal computing recovery team; equipment replacement team; and building recovery team. Moore and Lakha (2004) and Hawkins et al. (2000) argued that for the recovery effort, the core team is usually the IT which is responsible for developing IT strategies and recovery solutions for business functions. However, the involvement of people from other business areas is also necessary in order to ensure an enterprise-wide participation since the overall process is “*Business Continuity Management not Technology Continuity Management*” (Hecht, 2002). It is about getting the entire organization up and running, not necessarily the systems.

### **c) Performing risk assessment and Business Impact Analysis**

This phase involves identifying the business operations which are directly related to customers and income revenues, as well as identifying business critical functions. Once business operations and critical functions are identified, an external and internal assessment of the business environment is performed in order to assess all potential risks<sup>6</sup> that are likely to impact these operations and critical functions, as well as corporate assets, systems and information (Gibb and Buchanan, 2006; Pitt and Goyal, 2004). Finally, a Business Impact Analysis (BIA) is performed based on the analysis and evaluation of the impacts of risks and effects of other emergency/disaster/crisis scenarios on each business operation and critical function (Elliott et al., 2010).

The Business Continuity Institute defined BIA as: *“a management level financial analysis that identifies the impacts of losing an organization’s resources. The analysis measures the effect of resource loss and escalating losses over time in order to provide reliable data upon which to base decisions on mitigation, recovery, and business continuity strategies”* (ASIS International, 2005). One way of performing BIA is via establishing standard time-bands as the basis of evaluation. For instance, the impact on business operations and critical functions can be assessed if any of these operations or functions is unavailable, for, say, 2 hours, 2-24 hours, or 1-5 days (Savage, 2002). BIA helps to quantify the impact of losses which can possibly occur and then ranks them in order of importance. Such losses are not limited to financial, IT or human losses, but also to loss of customer confidence and damage to organizational reputation. In addition, BIA provides a valuable insight into the operational factors that may reduce the smooth running of the business; determines the sequence of recovering business functions; and helps to identify and clarify recovery strategies and backup options (Tammineedi, 2010; Clas, 2008; Selden and Perks, 2007; Gallagher, 2003; and Savage, 2002).

### **d) Choosing alternative recovery site(s) and developing backup and data recovery strategies**

Bajgoric (2006), Fitzsimon (2006) and Toigo (2002) argued that many organizations today depend hugely on electronic data and systems in their operations. Therefore, in the case where an organization relies hugely upon a single working electronic network for

---

<sup>6</sup> BCM helps an organization to deal with any type of risk that is likely to lead to short, medium and long term disruptions to critical functions, with more focus drawn on risks that have the highest potential, including: intentional human threats; unplanned human threats; natural threats; unnatural environmental threats, as well as commercial threats (Ashton, 2005; Hecht, 2002).

data communication, exchange, storage and transactions, even a one day interruption will be costly and may be catastrophic. In this context, BCM and system survivability are closely linked concepts (Quirchmayr, 2004). In this phase, the disaster recovery team develops various strategies and backup plans for the computing resources in order to ensure effective and quick recovery following any unexpected incident and in order to avoid chaos and major data loss. One way of doing this is by breaking down the IT processes into a set of modular components that then can be easily secured, backed up, and recovered (Vizard, 2008). A disaster recovery team will also be responsible for identifying recovery alternatives; choosing alternative recovery site(s), and providing senior management with the final recovery and backup options and alternatives. In addition to the IT recovery strategies, recovery strategies for services, as well as physical assets including buildings, documentation and personal requirements are also developed in this phase (Gibb and Buchanan, 2006; Moore and Lakha, 2004). In general, the overall point for recovery options and alternatives is to allocate and provide acceptable minimum requirements that will ensure the continuity of the most critical business functions with minimal disruption to the business so that the business will be able to run as usual in the event of a disaster or a crisis (Nosworthy, 2000).

#### **e) Developing the disaster recovery plan**

In this phase, and after choosing the alternative recovery site(s) and developing the backup and recovery strategies, a disaster recovery plan is developed and documented. The disaster recovery plan provides guidance on the ways business recovery and recovery support procedures and action plans should be initiated following a disaster or crisis in order to re-establish the disrupted process(s) or service(s) (ENISA, 2008; Gibb and Buchanan, 2006). According to ENISA (2008), business recovery procedures are used after the occurrence of an incident that has the potential to affect the ability of the business to operate as usual. They provide the necessary information for the IT team(s) to recover their IT processes that support different business units in order to recover business critical functions and subsequently resume business normal operations. Recovery support procedures are those used by the teams who have a corporate supporting role and who, during an incident, would have particular roles to be played. Recovery support procedures usually include: human resources recovery; facilities recovery; health and safety procedures; alternate site co-ordination; original site recovery; and damage assessment.

#### **f) Developing the business continuity plan**

In this phase, a business continuity plan - which provides continuity and which has to cover all business units, critical business functions, resources, and infrastructure within an organization - is developed (Clas, 2008; Ashton, 2005) based on understanding the three phases of a disaster (i.e. the resolve, respond and rebuild phases), as well as disruption levels (i.e. minimal, moderate and major) and the corresponding activities that have to be undertaken in each phase of the disaster. Usually, the 'Resolve' phase involves planning and decision making on how to prevent disasters and crises or how to reduce their unfavourable impacts if they occur by setting anticipatory plans. The 'Respond' phase involves setting up the immediate action plans that have to be carried out at the moment and during the occurrence of an unexpected event. The 'Rebuild' phase could be as simple as replacing a damaged piece of equipment or as complex as rebuilding the whole organization and recovering all its business operations (D'Amico, 2007).

The nature and format of the business continuity plan, however, differs from one organization to another and from one country to another based on a number of factors, such as size of the organization, type of business, and corporate and country cultures. Therefore, there is no universally applied template for a business continuity plan. Nonetheless, all business continuity plans must share a number of common characteristics, such as: simplicity in design; strategic orientation; practicality; flexibility; and ease of maintenance (Gallagher, 2005). *"If business continuity plans are too detailed they will be useless and ignored in a crisis"* and *"an overly complex plan will also be hard to keep updated and will not survive"* (Gallagher, 2003).

Key issues that have to be addressed in the plan are: emergency response procedures; emergency control centre establishment; command and control procedures; procedures for notifying all internal and external stakeholders if the plan is invoked; and external support procedures (Ashton, 2005; Pitt and Goyal, 2004). Most importantly, the business continuity plan and the disaster recovery plan have to be regularly tested and trained in order to make people familiar with the plan and to be able to use it effectively in an emergency situation and should also be regularly maintained and updated in order to remain current because plans can easily go out of date due to the rapid changes of the business environment and corporate requirements (Botha and Solms, 2004; Gallagher, 2003).

### **g) Training and testing the developed plans**

Elliott et al. (2010) noted that the development of the business continuity plan does not mark the end of the BCM process. The business continuity plan and the disaster recovery plan need to work in real situations not just in theory (Lindstrom et al., 2010). “*BCM is a business culture rather than a project*” (Brazeau, 2008). “*Business Continuity Management is not an event, it is a process that must change and adapt with the organization*” (Hecht, 2002). Therefore, the management perspective of BCM, which includes training, testing, maintenance and updating of the plans is highly significant (Tammineedi, 2010; Elliott et al., 2010).

Training and testing are significant in BCM, and the question of which comes first is unresolved. Morwood (1998) argued that training is first performed so that when it comes to testing staff, they are more likely to succeed in a test. Training motivates all people in the organization to participate actively in BCM and promotes teamwork (Rozek and Groth, 2008). Lindstrom et al. (2010), Kubitscheck (2001) and Wills (1994) emphasized the significance of training in helping employees to learn by experience and work effectively in groups. It also motivates all employees to follow one direction towards achieving the same corporate goals. Low et al. (2010) also highlighted that training increases the awareness of employees regarding BCM and helps to embed a continuity culture within the organization. Morwood (1998) recognized two main types of continuity training: awareness and scenario training. While awareness training is designed to provide staff with the required level of business continuity understanding, scenario training is usually carried out after the awareness training and involves practical exercises (e.g. simulations - which are more intense than normal exercises) and are implemented in order to confirm peoples’ understanding of the BCM procedures (Totty, 2009).

Testing allows examining the comprehensiveness and applicability of the developed plans and their ability to cope with various disasters and crises. It ensures that the business continuity and the disaster recovery plans can be executed, and that all the required resources are deployed as part of the overall BCM strategy (Mitts, 2005; Ernest-Jones, 2005; Koch, 2004). Moreover, full plan testing in a real atmosphere enables continuity teams to find possible weaknesses in the plans and strengthen them (Cerullo and Cerullo, 2004). Testing also builds confidence among people; reduces panic at the time of emergency; and gets everyone familiar with their roles (Strategic Direction, 2008).



As evidence, in 2008, a British Airways' Boeing 777, which was flying from Beijing to London, crash landed at London-Heathrow airport. Fortunately, however, there were neither human casualties nor serious injuries. This was largely due to the fact that British Airways prides itself in performing much training and simulations for their business continuity plans which was reflected on the behaviour of the staff onboard who showed high levels of calm efficiency and ability to quickly evacuate the crash landed plane (Elliott et al., 2010).

Pitt and Goyal (2004) argued that testing involves performing the following activities: preparing exercise programs; preparing detailed exercise scenarios; and identifying training requirements. Testing can be done in different ways. It can be undertaken by specialist consultants from outside the organization or by internal teams from inside the organization or by using both (Savage, 2002). In addition, testing the disaster recovery plan ensures that any changes to the IT systems or business processes do not necessarily create a need to develop disaster recovery procedures again (Beaman and Albin, 2008). Moreover, Gondek (2002) stated that a critical success factor in assessing the disaster recovery plan is not 'what' to test, but 'how' to test. In this context, Edwards and Cooper (1994) introduced four different types of testing of the disaster recovery plan: hypothetical testing- which aims to verify recovery procedures and prove their theoretical applicability; component testing- which aims to verify the accuracy and compatibility of the individual recovery procedures; module testing- which aims to verify the functionality of these procedures when multiple components are combined; and full testing- which aims to verify the overall integrity and functionality of all the modules of the disaster recovery plan.

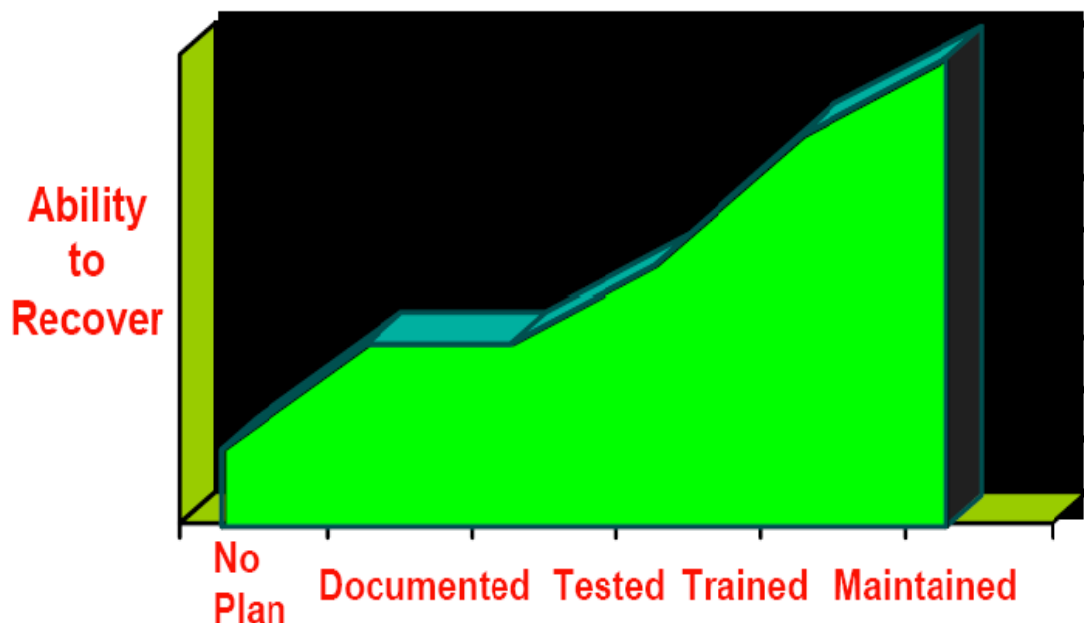
#### **h) Maintenance and updating of the developed plans**

Even though, maintenance and updating procedures of the BCM plans are sometimes difficult and time consuming, they are significant in BCM. Maintenance provides continuous updating of the business continuity action plans and ensures they are capable of responding effectively to the changing nature of the business environment and that they are fit for use and quality assured (Low et al., 2010; Elliott et al., 2010; Botha and Solms, 2004). In addition, Clas (2008), Gallagher (2005), and Karakasidis (1997) argued that regular maintenance protects the organization from having to develop procedures again (i.e. helps to keep plans relevant and updated), which ensures the existence of

workable business continuity action plans at all times, since the impact of having irrelevant or out of date plans is much worse than having no plan (Gallagher, 2003). Karakasidis (1997) discussed two schemes of maintenance and updating for the developed plans: periodic and in-response. Periodic maintenance and updating is conducted regularly on a monthly, quarterly, or annual basis, whereas, in-response maintenance and updating is conducted in response to any external stimulant or as a response to the dynamics of the business environment.

As a concluding remark, Strohl Systems Inc., which designs, markets, and supports business continuity software and services, described the training, testing, maintenance and updating activities as indicators of the maturity of the planning for business continuity (Strohl Systems, 2007) (see figure 2.2 for an illustration). Such activities ensure that the developed plans remain up to date and fit for use and increase the chance of an effective and quick recovery following disasters or crises (Savage, 2002). Momani (2010) also noted that these activities lead to an effective implementation of BCM.

**Figure (2.2):** The ability to recover vs. maturity of the planning for business continuity.



**Source:** Strohl Systems (2007).

## **2.4 Summary**

There exist a number of different approaches to managing organizational risk that have been introduced and discussed in the literature; such as scenario planning, risk management, and business continuity management. The literature indicates that scenario planning and risk management have a number of drawbacks which might negatively influence their wider adoption. BCM is a new approach to organizational risk, disaster and crisis management which is becoming increasingly adopted in many organizations from different sectors and countries. BCM provides organizations with preventive and corrective means in order to improve their preparedness, response and recovery capabilities against various disasters and crises that are likely to happen unexpectedly and be associated with unfavourable impacts. BCM also enables organizations to take advantage of the weak signals that may subsequently develop to a major disaster or crisis. In this chapter, BCM was introduced and discussed using the available literature and a number of empirical studies were introduced in order to provide evidence and support the discussion.

# **CHAPTER**

# **3**

## **STRATEGIC PLANNING AND BUSINESS CONTINUITY MANAGEMENT**

## Content

3.1 Introduction	53
3.2 Strategic planning	53
3.2.1 Strategic planning vulnerability	55
3.3 Rationale for placing BCM in the context of SP	58
3.3.1 Organizational culture	62
3.4 Factors influencing the placing of BCM in the context of SP	72
3.5 Summary	75

### **3.1 Introduction**

This chapter aims to introduce Strategic Planning (SP) and discuss its role and importance in achieving various organizational purposes. Next, it discusses the potential vulnerability of SP in order to develop an understanding of the significance of placing BCM in the context of SP. Finally, it identifies the factors that influence the placing of BCM in the context of SP, including the factors that are likely to drive (i.e. encourage) and the factors that are likely to obstruct (i.e. discourage) it. Therefore, this chapter is divided into three sections. Section 3.2 introduces strategic planning; section 3.3 discusses the rationale for placing BCM in the context of SP; and section 3.4 identifies the factors influencing the placing of BCM in the context of SP.

### **3.2 Strategic planning**

Appleby (1994) classified planning into two main categories: a) tactical planning: which involves deciding upon the way corporate resources are allocated in order to achieve strategic goals, and is based on past records and involves short timescales, and b) strategic planning: which involves deciding upon the goals, mission and vision of an organization and is performed at a corporate level and depends on unreliable long-term forecasts.

The NetMBA (2010) defined SP as: *“a fundamental and deliberate process in which senior management creates, on a regular basis, corporate strategies and then communicates them down the organization for implementation”*.

Ocasio and Joseph (2008) defined SP as: *“a form of management and planning practice intended to formulate strategy”*.

Johnson and Scholes (1997) defined SP as: *“the direction and scope of an organization over the long term; which achieves advantage for the organization through its configuration of resources within a changing environment, to meet the needs of markets and to fulfil stakeholder expectations”*.

Mintzberg (1994) stated that: *“during the 1960s, corporate leaders embraced strategic planning as the one best way to devise and implement strategies that would enhance the competitiveness of each business unit”*.

O'Regan and Ghobadian (2002) and Quinn (1980) noted that there are several definitions for SP; however, there is no single universal one. Nevertheless, there are common themes between these definitions (including the above). These include: determining the long term direction of the organization, as well as altering the organization's strengths relative to those of its rivals, in the most effective and efficient way. In addition, SP is related to general corporate purposes; aims to derive a strategic plan; aims to develop and sustain a corporate competitive advantage; and is future oriented.

Strategic planning was first introduced by "General Electric" in the 1950s (Ocasio and Joseph, 2008). The popularity of SP peaked in the 1960s (O'Shannassy, 2003) and has continued to be practised since then (Dincer et al., 2006; Kash and Darling, 1998). SP has helped organizations to deal with various forces beyond daily and operational scopes and link long-term strategic goals with both mid-term and short-term plans. SP, which has also been known under various labels encompassing "long range planning", "corporate planning" and "strategic management" (Falshaw et al., 2006), is an essential tool of management that enables an organization to take long-term decisions based on a combination of knowledge and experience in order to ensure continuous growth and development (Carter, 1999). Yip (1985) argued that SP helps organizations to achieve various purposes, such as: developing sustainable competitive advantage; achieving synergy; and creating change. Malone (1998) and Sokol (1992) argued that SP aims to create a course of action that guides an organization to achieve a desired future state.

Similar to Yip (1985) and White (1984), Thompson (1998) described SP as the set of collective actions that are carried out in order to achieve various organizational goals. A strategic plan, which is the outcome of SP, is concerned with the creation of ideas and the development of solutions and actions that help to build a unique competitive advantage (Bonn, 2005). A strategic plan aims to enhance performance; provides an organization with the opportunity to have a better position in the marketplace; clarifies its future direction; and helps to ensure long-term survival and success by going beyond the current status, market and industry conditions, in order to distinguish the organization into the future (Price et al., 2003; Schraeder, 2002; Chaharbaghi and Willis, 1998; Preble, 1997; Hamel and Prahalad, 1993). Wheelen and Hunger (2002) also argued that strategies are made in order to enable organizations to decide on one or more of the following issues: the ways that lead to growth and stability; deciding on the industries and markets in

which the organization will operate and compete; deciding on the ways senior management will coordinate, communicate and transform skills and activities; and encouraging innovation and creation.

### **3.2.1 Strategic planning vulnerability**

According to O'Shannassy (2003), the popularity of SP was at its peak in the 1960s. However, during the late 1970s and 1980s, SP experienced a decline in its popularity and influence and faced criticism in terms of its effectiveness as it failed to deliver many of its expected outcomes. SP approaches seemed to be of doubtful value and insufficient especially in highly dynamic and uncertain business environments for the elements of organizational risk, disaster and crisis and their management were missing in the strategy process and in strategic management research (Ocasio and Joseph, 2008; Vila and Canales, 2008; Aldehayyat and Anchor, 2008; Dincer et al., 2006; Pollard and Hotho, 2006; Segal-Horn, 2004; Glaister and Falshaw, 1999; Camillus et al., 1998; Preble, 1997).

For example, and as evidence, Sekulić (2002) and Schraeder (2002) argued that SP is important in achieving organizational purposes, such as: improving corporate performance; allocating corporate resources; managing complexity; developing sustainable competitive advantage; developing better strategic positions; clarifying the direction of the organization; and improving communications. In addition, empirical studies, such as those of Kachaner and Deimler (2008) who conducted a study of strategy-development processes by interviewing more than 100 executives from 20 leading organizations; Al-Shammari and Hussein (2008) who conducted a survey questionnaire with 37 CEOs from Jordanian Manufacturing organizations; Aldehayyat (2006) (in Jordan); and Vantage Associates which conducted a survey of planning professionals with 381 US investor-owned electric and gas utility companies (Whelan and Sisson, 1993), showed that SP was also important to achieve organizational purposes, such as: motivating innovation and creation; implementing productive action plans; supporting growth of the organization; contributing to better decision making; helping in entry to new markets; helping in introducing better products; helping in securing better financing conditions; improving commitment; examining the problems of the organization; and assuring unified opinion among top executives. However, less attention was paid to issues related to BCM including organizational risk, disaster and crisis and the comprehensive scanning of the business environment in SP, and no focus was drawn



on issues, such as ensuring the existence of continuity and recovery planning. SP contributed less in achieving organizational purposes related to BCM, such as: identifying various types of risks facing the organization; scanning of the business environment; ensuring the existence of proactive continuity planning; and ensuring effective recovery after a disaster or a crisis.

Wan and Yiu (2009), Lamberg et al. (2009), Woyzbun (2008), Chaharbaghi (2000), Grant (2003), O'Shannassy (2003), Preble (1997), Whelan and Sisson (1993), and Pauchant and Mitroff (1992) were among the researchers exploring the causes of the decline in the popularity and influence of SP during the 1970s and 1980s. Each highlighted particular aspects.

Since organizations are sensitive to their environments and since these environments are changing rapidly and have the potential of surprise and discontinuity, many strategic plans developed in the 1970s and 1980s failed as a result of the increasing dynamics and changes of the business environment (Woyzbun, 2008; Cunha and Cunha, 2006). This issue was also addressed by Mason (2007) who argued that there seemed to be agreement amongst chaos and complexity authors that traditional strategy making is less affective in fast changing environments. SP during the 1970s and 1980s was described as inward looking and neither focused on scanning the business environment nor on business continuity issues. In addition, most SP definitions were too narrow. This tightened the scope of SP and separated it from its outer environment in a period where an external perspective to SP could have been considered crucial. As evidence, the findings of a study conducted with 381 US investor-owned electric and gas utilities revealed that traditional SP approaches were suffering a number of weaknesses, such as: incomplete planning process; ineffective SP process; and poor communications (Whelan and Sisson, 1993).

Wan and Yiu (2009) and Grant (2003) also provided an explanation for the decline of SP which follows logically from Woyzbun's (2008) discussion. They argued that since the global business environment is becoming more dynamic and diverse, SP should be able to respond to this change since strategies will become less effective if they do not fit with this change. More importantly, because environmental changes are usually perceived as vague, threatening and unpredictable; organizations may possibly respond conservatively and cautiously to change, and subsequently, fail to adapt to new situations which will reduce their ability to cope effectively with unexpected disasters and crises.

This issue was also addressed by Noy and Ellis (2003) and Pauchant and Mitroff (1992) who noted that the significance of disasters and crises and the discussions of organizational risk and crisis management were rare and even fragmented in strategy schools and literature during the 1970s and 1980s. This reduced the significance and focus on developing corporate defensive capabilities (Preble, 1997). Preble (1997) also noted that many strategic plans did not succeed because they were developed to provide only corporate offensive capability that would enable an organization to compete aggressively, while paying less attention to building defensive capabilities which are necessary to prevent disasters and crises from happening, reduce their impact and be able to recover effectively if they occur. This “*aggressive*” and “*forward-orientation*” of SP, as described by Preble (1997), was also addressed by Porter (1979) who noted that a major objective of SP was to develop a strategic plan that enables an organization to find a position in the industry environment and to compete well.

The decline in SP, according to Chaharbaghi (2007), may also be a result of the rational top-down, one-dimensional approach to SP which has a number of potential drawbacks. First, a one-dimensional approach to SP is not comprehensive in today’s multi-dimensional world, which is full of challenges, risks and uncontrolled forces. Second, a top-down approach reduces innovation and creation, limits the participation of people, especially during disaster or crisis situations and centralizes power and decision making. The third point follows reasonably from the second point in a way that in an organizational environment that lacks innovation, organizations cannot separate themselves from their past and do not attempt to develop alternative future scenarios but rather reinforce the old approach to SP that maintains the status quo. This may give a false indication of stability and security.

Lamberg’s et al.’s (2009) and O’Shannassy’s (2003) opinions also follow logically from this discussion. They argued that the traditional one-dimensional approach to SP results in less involvement and commitment to planning of line managers and employees, which subsequently, will reduce flexibility of organizations and their ability to adapt and survive in uncertain environments. It is also likely to produce inconsistency in strategic actions with respect to the changes of the business environment. Individual and inconsistent actions may possibly be threatening and can affect the success and survival of an organization.

### 3.3 Rationale for placing BCM in the context of SP

Despite the decline in the popularity and influence of SP during the 1970s and 1980s, Glaister and Falshaw (1999) and Jekowski (1998) argued that SP was still beneficial and traditional SP techniques could still be useful. However, because the business environment is changing rapidly and is becoming riskier and more volatile, a new perspective to SP has to emerge which draws more attention to issues of organizational risk, disaster and crisis and their management. “*As the environment is continually changing, it is also necessary for strategic planning to continually change in order to maintain a balance or fit with the external environment*” (Proctor, 1997; Wright et al., 1996). Different business environments stimulate a need for reinventing SP (Kachaner and Deimler, 2008; Camillus, 1996). Kash and Darling (1998) and Preble (1997) also argued that despite the fact that SP helps to forecast the future, non-foreseeable and future events are still difficult to forecast. In addition, what makes the future difficult to forecast is that the function for the management of risk, disaster, and crisis is missing in the SP of many organizations.

The “*right strategy*” should include preventive and corrective measures (i.e. proactive and reactive measures) for dealing with organizational risk, disasters and crises (Kash and Darling, 1998). Kash and Darling (1998) noted that “*strategic planning without the inclusion of crisis management is like sustaining life without guaranteeing life*”. In this context, Segal-Horn (2004) and Eisenhardt (2002) argued that the fast changing and turbulent business environment provokes changes in SP. Haskins (2007) and Carneiro (2006) also added that SP has to take a broader perspective that implies risk and daring and that organizations should put some time aside to explore “*what if*” in their SP to anticipate different future scenarios in order to be able cope with unexpected disasters and crises.

According to Fink et al. (2005), disasters and crises are rarely obvious and their implications are unclear in their early stages. Therefore, Grant (2003) described developing a strategic plan when future conditions are unknowable, as challenging. However, senior managements should have the wisdom to identify threats early enough and address them in SP. SP is less likely to be useful if it does not have the potential to sense and interpret the “*weak signals*” arising from the business environment that precede possible disasters and crises (Cunningham, 2008; Fink et al., 2005).

Successful organizations are those that anticipate and develop adaptive mechanisms to cope with discontinuity (Foster and Dye, 2005; Castillo, 2004; Preble, 1997; and Alpander and Lee, 1995). Adaptive organizations are those that identify risk and changes in the environment and make changes in their SP accordingly in order to improve their capability of dealing with unexpected disasters and crises (Walsh, 2005; Graetz, 2002). Since SP involves devising action plans to achieve a desired future state (Malone, 1989), and since there are many factors that can disrupt the critical functions of an organization and threaten the continuity of its operations which may subsequently result in a corporate disaster or crisis, such as loss of business, loss of customers or loss of corporate reputation (Farjoun, 2002; Camillus et al., 1998), SP must enable the organization to cope with these factors in order to ensure its long-term survival. Moreover, senior management should recognize that if any unexpected incident occurs without having the necessary tools of business continuity and disaster recovery; it is likely that the entire business will be threatened. Jarrett (2009) suggested that since the business environment is getting more complex and risky, organizations should spend time exploring what risks this environment is likely to bring in their SP in order to develop an organizational strategic capability of resilience that is necessary to counteract impacts of disasters and crises.

Herbane et al. (2004) argued that one way of building this organizational strategic capability of resilience can be achieved by integrating BCM with SP in one framework. In doing so, Herbane et al. (2004) have seen a potential role for BCM to be integrated with the strategic activities of the organization, where BCM is not designed to be palliative, but to improve resilience, which subsequently, will develop a greater strategic contribution for BCM since it puts into place planning approaches, structures and skills in a multi-functional, proactive and enterprise-wide context. This integrated framework could also strengthen SP by shoring up the area of its vulnerability. It also aims to provide organizations with an integrated defensive and offensive capability to deal with their competitive environments. It also helps to identify which key elements and business areas may be vulnerable. If these areas fail to function properly during a disaster or crisis, this will cause discontinuity to business operations and may threaten the survival of the entire organization. BCM in this context may also act like an agent for an early warning system to possible interruption, thus allowing the management to sense weak signals that may subsequently develop to a disaster or crisis (Dawes, 2004).

The idea of placing BCM in the context of SP (i.e. integrating BCM with SP in one framework) is new since BCM itself is a new field that emerged in the early 2000s and is a new area of professional practice (Borodzicz, 2005). However, a few studies, such as those of Wong (2009), Foster and Dye (2005), Herbane et al. (2004), and Malone (1989) have discussed the potential for this integration to take place and have highlighted its organizational significance and potential benefits.

Wong (2009) argued that BCM has to be considered as a strategic entity and should have a role at an executive level and be integrated into corporate long-term planning rather than being an operational entity of management. He noted that adopting BCM in a strategic sense (i.e. placing BCM in the context of SP) can help organizations recover from crises with little impact to their competitive position. He also stated that “*BCM should be developed to complement senior management’s strategic management programme and be integrated into the organization’s high-level policies*”. Foster and Dye (2005) proposed building BCM into strategy, based on a study of 12 North American-based organizations. They argued that this would help to achieve long-term goals; develop defensive capabilities; enhance SP; and create a culture of resilience. Evidence from six U.K.-based financial organizations was used by Herbane et al. (2004) to show that BCM can be seen as strategic. Their study focused on a potential convergence of BCM and SP. Malone’s (1989) study in family-owned organizations, proposed that those firms that engage in SP will probably also prepare for future continuity of the business. Integrating business continuity with SP from Malone’s (1989) point of view means addressing general strategic issues, as well as continuity issues in SP.

The literature also provided a few other studies (e.g. Pollard and Hotho, 2006; Ritchie, 2004; Preble, 1997; and Mitroff et al., 1992) that aimed to develop an understanding of the significance of integrating crisis management –which is considered the roots of BCM and which is often used interchangeably with BCM (Elliott et al., 2010; Herbane et al., 2004) – with strategic management. Accordingly, integrating crisis management into strategic management will help organizations to address disaster and crisis scenarios in their SP and be prepared to respond effectively to such incidents when they occur, which subsequently, will help to protect the long-term survival of the organization.

An empirical study conducted by Pitt and Goyal (2004) showed that BCM has been already adopted as a strategic management tool by most of the organizations included in

their study. Moreover, the findings of an empirical study conducted in 2007 by the Chartered Management Institute in conjunction with the Civil Contingencies Secretariat and Continuity Forum showed that 73% of managers reported that BCM was a strategic issue and either seemed “important” or “very important” to senior management. Therefore, BCM was considered one of the responsibilities of senior management and requires the participation and involvement of various business areas (Woodman, 2007).

Furthermore, Collins and Porras (1996) and Malone (1989) proposed that there exists a positive relationship between the level of SP and the extent of continuity management, and that continuity management can be linked to the ability to achieve the corporate vision -which is usually considered as a component of a strategic plan and which gives an indication about how a future state will be. This indicates that BCM could be integrated into SP by linking it to the corporate vision. The Deloitte Touche Tohmatsu (2002) report, suggested that BCM can be placed in the context of SP by integrating it with every aspect of the organization in order to cover the entire spectrum of risks that may possibly threaten every business unit, and by making BCM one of the responsibilities of senior management. Herbane et al. (2004) also showed that BCM has the potential to play a more integrated strategic role, and hence, could be placed in the context of SP based on combining planning and management perspectives and based on the extent to which BCM becomes embedded in the organization and its culture, which will create long-term value through addressing all interruptions that may possibly affect any part of the organization.

The Business Continuity Institute (2005), Dawes (2004), Smith (2002), Savage (2002), Wojcik (2002) and Kippenberger (1999) emphasized the importance of embedding BCM in the culture of the organization via an on-going programme of training, testing, maintenance, and updating of the continuity plans. Embedding BCM in the corporate culture can be considered as another way of placing BCM in the context of SP. This is because strategy and culture overlap, with many issues in the organization which some consider strategy and others consider culture. Moreover, there are a quite large number of properties and similarities that are shared between culture and strategy. Therefore, SP and culture may be substitutable for one another (i.e. serve a common function), where the core culture of an organization can be considered a substitute for SP especially when the corporate culture (e.g. beliefs and values) is more diverse thereby creating the need for more detailed planning (Elliott et al., 2010; Saxby et al., 2002; and Weick, 1985).

### 3.3.1 Organizational culture

Organizational culture has been a major subject of discussion in the literature with many researchers introducing and discussing various definitions and aspects related to culture, in general, and organizational culture, in particular (e.g. Bellot, 2011; Schraeder et al., 2005; Saxby et al., 2002; Witte and Muijen, 1999; Hoecklin, 1995; and Hofstede, 1991).

The field of organizational culture traces its roots back to the late 1930s in relation to a study of the work environment. Until the 1960s, the most prominent terms that were used to study workplace social and psychological conditions were “work environment” and “climate”. During the 1960s and 1970s, the words climate and culture were used interchangeably to address issues related to professional socialization and integration of the new employee. The mid 1970s witnessed the development of organizational culture (Bellot, 2011). However, it was not until a few years later when Pettigrew (1979) first formally introduced the term “organizational culture”. Since then, a huge amount of literature has been produced in the field and the study of organizational culture has become very diverse (Bellot, 2011; Sabri, 2004).

Many researchers agree that organizational culture is central to the functioning of an organization (Schraeder et al., 2005). Nevertheless, organizational culture is one of the most powerful sets of forces that can influence the organization (Pauchant and Mitroff, 1988). Culture has the potential to influence behaviours, decision making, strategies and performance (Ababaneh, 2010; Ali and Sabri, 2001).

Despite the fact that there are various definitions of organizational culture, there is no universally accepted one (Bellot, 2011). For the purpose of this research, organizational culture is defined as: “*the set of customs and typical patterns of ways of doing things*” (Porter et al., 1975). Buono et al. (1985) adds more insight to the definition of organizational culture used in this research by stating that “... *organizational culture affects practically all aspects of organizational life from the way in which people interact with each other, perform their work and dress, to the type of decisions made in a firm, its organizational policies and procedures, and strategy considerations*”. Moreover, in this context, organizational culture is the shared behaviours, values, and beliefs that are learned by the members of an organization (Elliott et al., 2010; Lawson and Ventriss, 1992).

Culture is always perceived as a collective phenomenon, because it is shared with people who exist or existed in the same social environment (Hofstede, 1991). It is also unique to every organization (Bellot, 2011). Therefore, it is described as “*the social glue that provides coherence, identity, uniqueness, and direction*” (Ababaneh, 2010). However, it is difficult to quantify or measure since many aspects of culture are intangible (Schraeder et al., 2005). Some researchers argue that culture to an organization is as personality is to an individual, which is formed hugely as a result of an internal reaction to external pressures and changes (Schraeder et al., 2005; Pauchant and Mitroff, 1988). Therefore, people, as well as organizations from different cultures, perceive the world differently which subsequently reflects the way they behave and do things (Hoecklin, 1995).

Cultural diversity may possibly exist between cultures within the same geographical region; for instance those within Europe, or between Canada, the U.S. and Mexico, Japan and Singapore. It also might exist within different regions in the same country (Hoecklin, 1995). The main cultural differences among nations lie in values (Hofstede, 1991). Therefore, their assumptions about doing business, for instance, are likely to differ. However, on the other hand, people today are increasingly required to interact, work, negotiate and compromise more closely with people from other cultures. Globalization has also highlighted the need to understand the organizational culture and has contributed, to a certain extent, to bringing different cultures closely together; in particular, in the business arena (Sabri, 2004). This has stimulated many international organizations to introduce various approaches to managing cultural diversity (Hoecklin, 1995).

Organizational culture was conceptualized as a construct that consists of three distinctive subcultures: bureaucratic, innovative, and supportive (Wallach, 1983). Arab society has its own cultural environment that has a great influence on Arab organizations and their management systems. Arab customs and values have been linked to a bureaucratic form of organizational structure. Therefore, Arab organizations have a culture that is different from that of the West (Sabri, 2004; Hofstede, 1991). Centralization of power and the existence of lines of authority and hierarchy are among the features that characterise this culture. In addition, work is highly regulated, systemized, dominated by rules and procedures, and normally associated with low levels of freedom, autonomy, and delegation (Ababaneh, 2010). In addition, Arab management systems are hugely influenced by Arabic language, the extended family, tribe, history, traditional values and



the notion that “it is not what you know, it’s who you know” is an underlying principle in the Arab world. However, Islam remains the most important aspect of Arab culture and is considered to be a symbol of identity (Sabri, 2004; Agnala, 1998).

Jordan is a small country in the Middle East and is a part of the Arab world. Therefore, Jordan’s culture, management systems, and business environment need to be seen within an Arab context. Its politics, economy, and culture are all based on tribalism, Islam, and a lack of democratic political systems (Al-Rasheed, 2001; Dadfar, 1993). In general, Jordanians are known to be polite, obedient and to respect authority. Their behaviours and attitudes, which reflect on the way they perceive life and work, are hugely influenced by tribal systems and the Arab culture. Undesired behaviours, uncertainty and risk are avoided and the long term survival of business is one of the main priorities of top managements of Jordanian organizations (Sabri, 2004).

Moreover, Jordanian culture, as well as the culture of all Arab-speaking countries, is considered to be masculine, in which males have more dominant roles and power than females. This is different than other countries, such as the Netherlands, Finland, Norway, Denmark, and Sweden where the culture is predominantly feminine (Sabri, 2004; Hoecklin, 1995; Hofstede, 1991). Hofstede (1991) argued that gender (masculinity-femininity) is considered a significant dimension of culture and has the potential to influence many aspects of societal life, including occupation, family, school, workplace, community life and interpersonal relationships, as well as business. In a masculine culture, there is usually a high focus on materialistic achievements and power rather than emotions, and management is management of groups and relationship prevails over task. The employer-employee relationship is perceived in moral terms, like a family link.

Therefore, in bureaucratic, masculine, family and tribe-oriented cultures, like the Arab one, imposed rules, orders, protocols, and resistance to change are likely to be among the factors that may possibly obstruct organizations from implementing innovative solutions that would help to create healthy work environments.

Pauchant and Mitroff (1988) noted that there are differences between ‘healthy’ versus ‘crisis-prone’ or ‘unhealthy’ organizational cultures. Since it might be difficult for an individual to change his/her personality, the same applies to many organizations who might find it difficult and problematic to change their cultures since this may evoke

emotional reactions from employees who subsequently might resist change (Schraeder et al., 2005). Nevertheless, since almost all organizations everywhere today are increasingly facing huge pressures from the global business environment and from competition, as well as a new series of threats not experienced before, it becomes necessary for them to adapt to such a dynamic environment and subsequently “adjust” or “change” their cultures in order to sustain their long term existence (Schraeder et al., 2005). In this context, Pauchant and Mitroff (1988) argued that an organization’s own culture might be its own worst enemy in creating crises. Researchers have also found an association between a strong organizational culture and superior organizational performance. In addition, strong organizational culture motivates employees to work more closely together in teams in order to achieve the same corporate goals (Ali and Sabri, 2001).

Jordanian organizations operate in a highly uncertain and risky environment, as do many other Arab organizations (Ali and Sabri, 2001). Therefore, it becomes necessary to create a healthy organizational culture or change some aspects of their original cultures. This is because the culture, or set of common values, beliefs and attitudes which define the rules of an organization, is likely to determine the ways in which an organization will act in different situations. Change will help organizations better adapt themselves to their changing environments and cope with unexpected incidents and future uncertainty. *“The best organizations have strong cultures that encourage adaptability and continuous improvements in all areas of operation”* (Adams, 2009). Most importantly, however, changing culture should not be made once, but rather, should be an ongoing process (Alpander and Lee, 1995).

Since organizational culture presents a set of shared values across the organization, this would involve values related to BCM. BCM is about developing an organizational culture of resilience (i.e. a healthy culture), where all employees are required to participate, interact and react to disasters and crises in an organized manner. It involves more coordination and cooperation between all business units and management levels. Therefore, it requires a constant state of change. BCM is about new ways of thinking, response and reacting to unexpected incidents. Therefore, perceiving BCM as being a planning exercise only is not adequate. BCM has to be a ‘forward learning’ daily activity that emphasizes flexibility, portability and technological integration and should be embedded in the culture of the organization (Elliott et al., 2010; Alesi, 2008).

However, creating a BCM culture (i.e. a culture of resilience), may be perceived as strange to some organizations, especially those crisis-prone, and therefore, might be resisted (Elliott et al., 2010). Resilience is the ability to absorb shock and external pressures and restore prior order. It even implies the ability to take advantage of these shocks and external pressures in order to become stronger and more resilient. Therefore, in a culture of resilience, there is an open atmosphere for reporting and addressing problems and organizational risks (Elliott et al., 2010). Resilient organizations are those capable of withstanding discontinuities and interruptions in order to adapt and survive in their environments (Starr et al., 2002). Resilient organizations are also those that maintain positive adjustment under challenging conditions (Sutcliffe and Vogus, 2003).

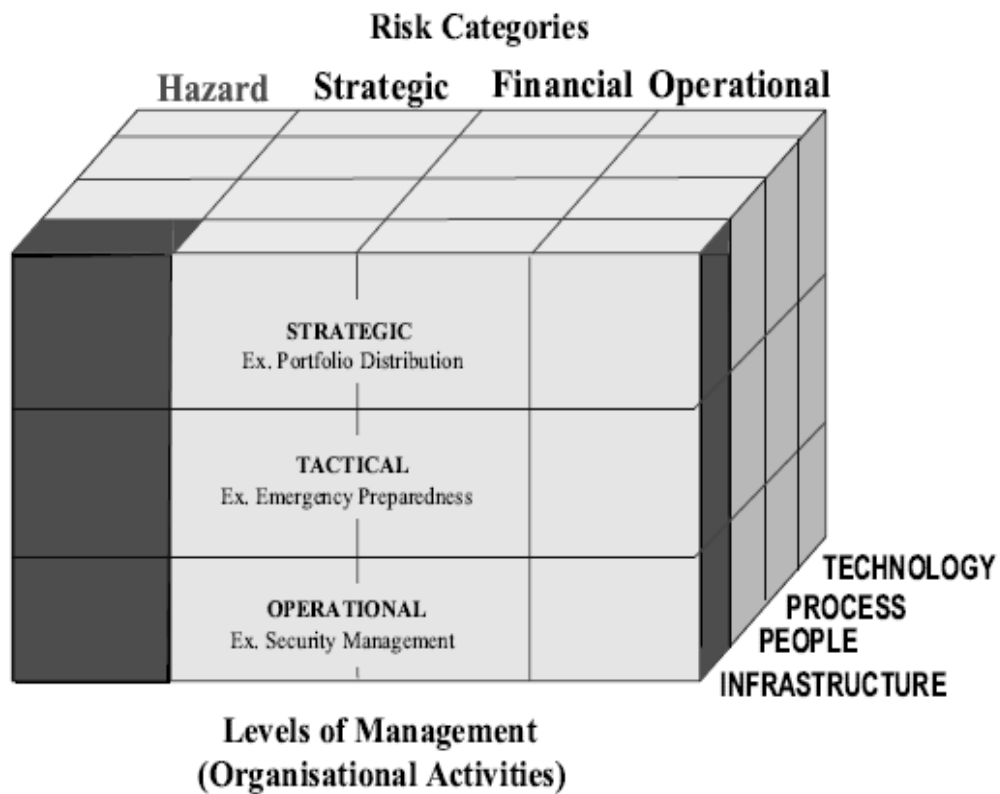
Schraeder et al. (2005) argued that successful cultural change can be achieved by training. Training programs aim at enhancing awareness and motivating change. They also help to reduce resistance by providing participants an opportunity to think critically and work in groups through hypothetical scenarios or simulations for instance in order to face future challenges more effectively. In addition, Elliott et al. (2010) and Alesi (2008) argued that embedding BCM in the culture of the organization (i.e. creating a culture of resilience) can be achieved by making continuity plans be revised as part of the normal course of business; by engaging all employees in BCM; by internally developing the continuity plans; by giving all business areas their own business continuity plans; by creating flexible and communicable plans; by providing ongoing seminars and awareness raising programs; and by effective leadership.

A number of theoretical frameworks were proposed in the literature that emphasize the significance of placing BCM in the context of SP and corporate culture, such as those presented in Selden and Perks (2007); Gallagher (2007); Smith and the Business Continuity Institute (2003); and Msezane and McBride (2002).

An integrated, enterprise-wide framework for BCM presented in Msezane and McBride (2002) illustrates what BCM means to an organization (see figure 3.1). The framework shows that BCM requires an enterprise effort and focuses on the hazard risk category for planning and management efforts at all management levels including the operational, tactical and strategic. It emphasizes that BCM requires a strategic-level planning at the infrastructure level since the impacts of disasters and crises are far reaching and can cause damage to infrastructure and can threaten the existence of the entire organization. Most

importantly, this integrated, enterprise-wide view of BCM highlights the interdependencies between the elements of the organization (people, process technology and infrastructure), levels of management (operational, tactical and strategic), and the risk categories (strategic, financial, operational and hazard), which subsequently, represents the organization as a one unit when it comes to ensuring business continuity.

**Figure (3.1):** An integrated enterprise-wide BCM model.

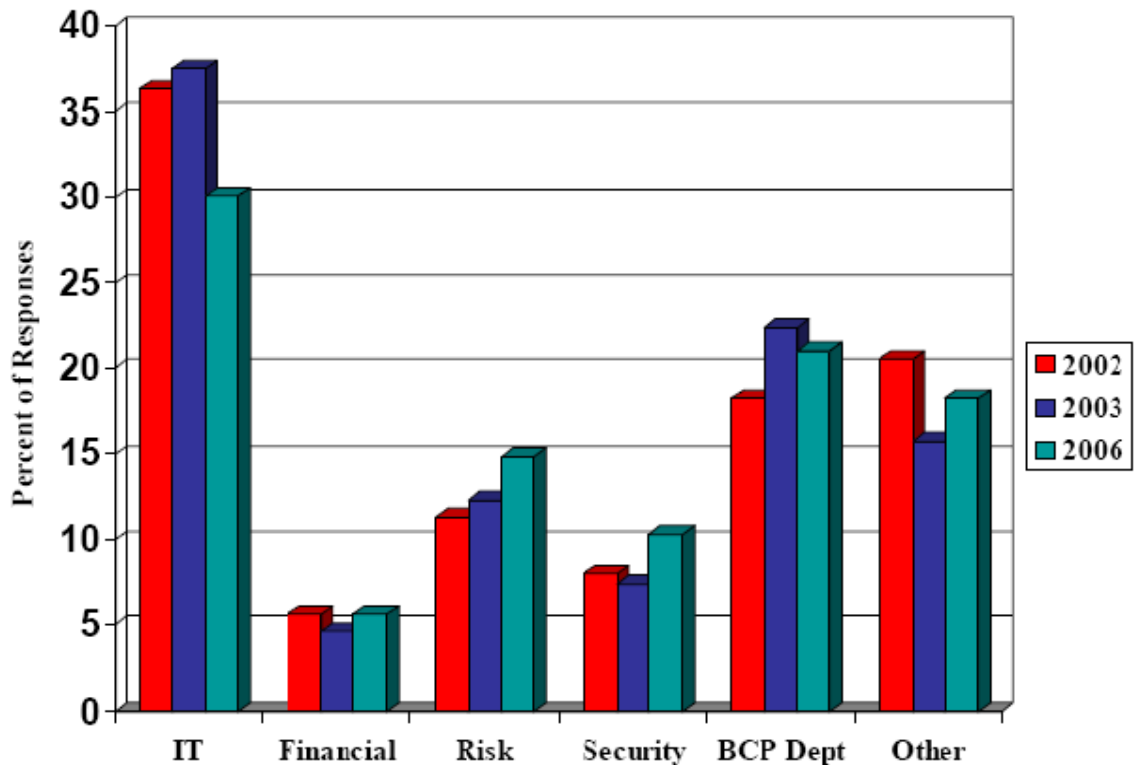


**Source:** Msezane and McBride (2002).

In this context, an enterprise-wide approach to BCM requires participation and involvement from various business areas inside the organization. The more these areas work closely together, the more the organization is likely to survive a disaster or crisis and ensure business continuity. Moreover, a strategic approach to BCM is more likely to succeed if it is based on the leadership of cross-functional teams who work closely together alongside senior management, where every business area has a specific role to play (Herbane et al., 2004; Gallagher, 2003). As evidence, a study conducted by Strohl Systems (2007) revealed that IT, finance, risk, security, business continuity and other

business areas have different roles to play in BCM. Despite the fact that the study showed that the role of IT was still seen to be relatively more significant compared to other business areas, the involvement and participation of other business areas was also significant in BCM (see figure 3.2 for an illustration).

**Figure (3.2):** Areas involved in BCM.



**Source:** Strohl Systems (2007).

Gallagher (2007) also noted if BCM, which has an “*all-embracing nature*”, is not embedded in the organization’s culture, it cannot contribute to the achievement of the long-term strategic goals. This issue was also highlighted by Herbane et al. (2004) who emphasized the significance of building a continuity culture within the organization’s culture. Since many organizations constantly strive to improve their culture and stimulate a cultural change which promotes continuity and resilience; BCM can be embedded in the organization’s culture through continuous training, testing, maintenance and updating of the BCM plans, including the business continuity plan and the disaster recovery plan (Low et al., 2010; Elliott et al., 2010; Gibb and Buchanan, 2006). Performing such activities –which is also referred to as BCM program management (Elliott et al., 2010),

and which is part of the overall approach to BCM discussed in section 2.3.2 - on a regular basis, creates and preserves a continuity culture and encourages all the employees to participate actively in BCM (see figure 3.3 for an illustration).

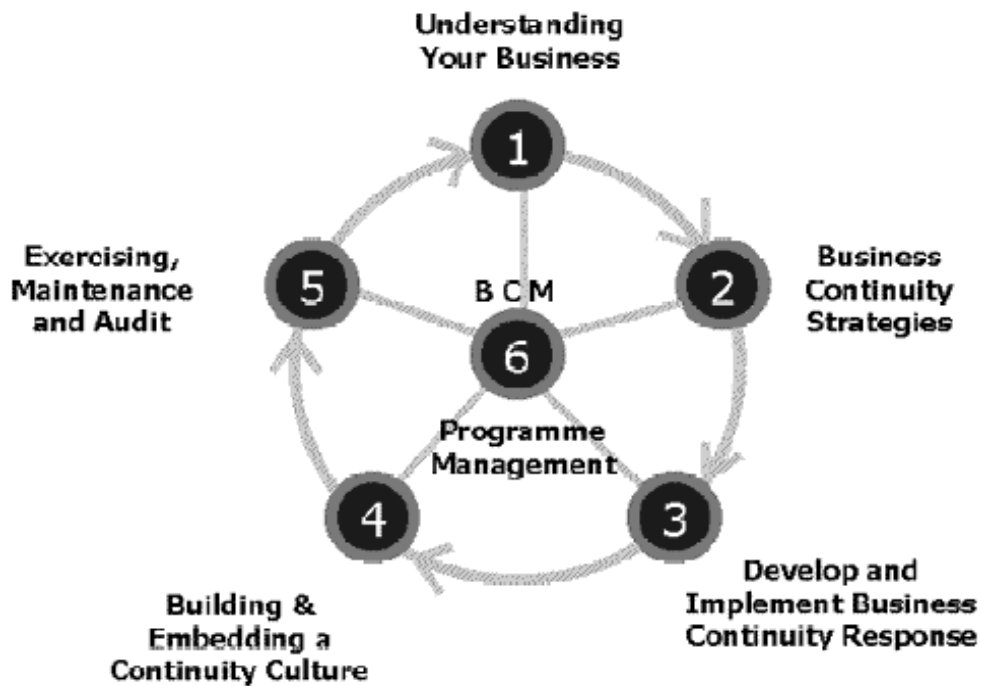
**Figure (3.3):** A framework for BCM.



**Source:** adapted from BCI (2011).

A similar framework for BCM was introduced by Smith and The Business Continuity Institute which provides an interactive process tool to guide the implementation of an effective BCM that ultimately focuses on building and embedding a BCM culture in the culture of the organization through BCM program management that includes training, testing, maintenance and updating of the BCM plans (see figure 3.4 for an illustration) (Smith and the Business Continuity Institute, 2003).

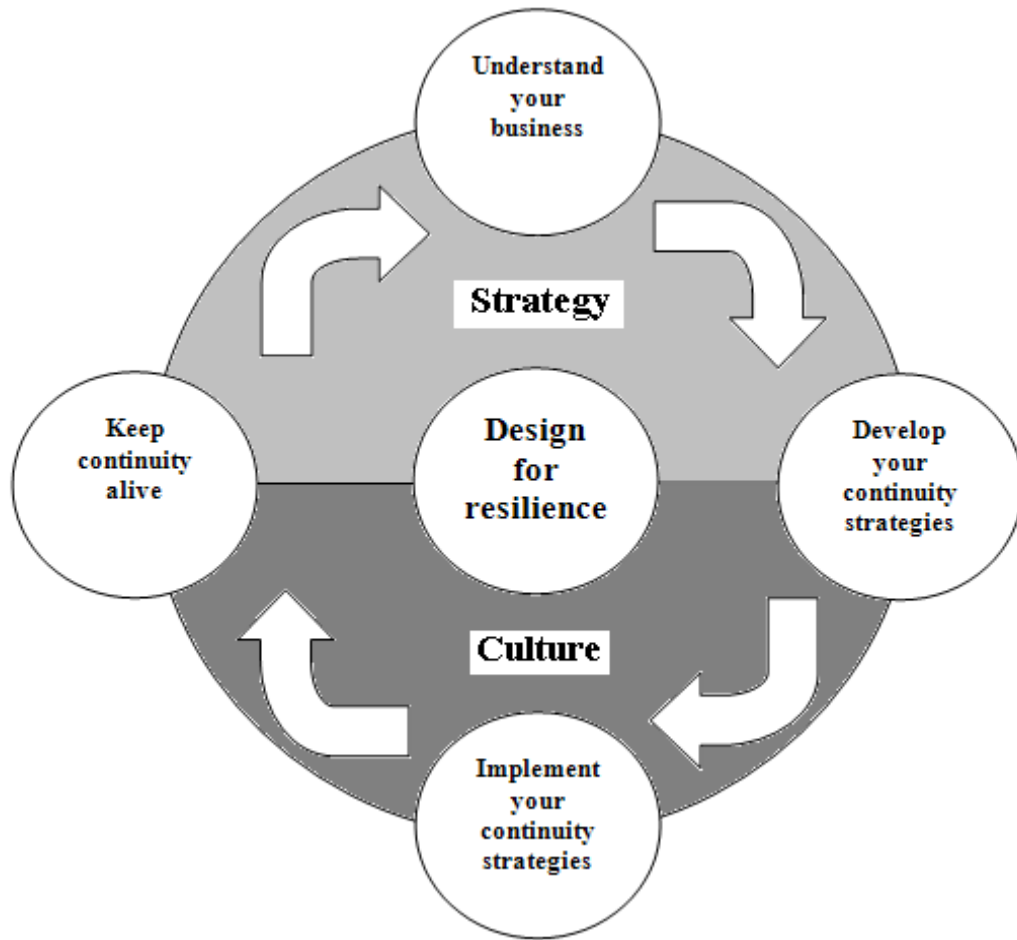
**Figure (3.4):** A framework for BCM.



Smith and the Business Continuity Institute (2003).

Like Alesi (2008) and Gallagher (2005), who suggested that building a culture of resilience requires embedding BCM in the corporate culture, Selden and Perks (2007) proposed a “Design for Resilience” framework for BCM. The framework (see figure 3.5 for an illustration) provides another way to integrate BCM with organizational culture and SP, as this approach presents BCM as a process that adds value to the entire organization. According to this approach, a large proportion of value is created by securing and protecting critical business functions and operations and ensuring their continuity during unexpected situations in order to achieve the corporate strategic objectives. In the design for resilience approach, business continuity strategies are therefore designed in order to achieve three distinct objectives: prevention- where BCM focuses on stopping an event occurring; proactive planning- in which BCM strategies are developed before the occurrence of an incident in order to reduce or mitigate its impacts; and reactive planning- in which BCM strategies are developed to be activated after the occurrence of an incident in order to help an organization return to normal and restore its business critical functions. *“This is the true strategic value of BCM”* (Selden and Perks, 2007).

**Figure (3.5):** The ‘Design for Resilience’ approach.



**Source:** Selden and Perks (2007).



### **3.4 Factors influencing the placing of BCM in the context of SP**

Modern organizations are described as “*organic*” since they are not immune from risk arising from the surrounding environment. Therefore, placing BCM in the context of SP (i.e. integrating BCM with SP in one framework) seems to be a result of many organizational concerns regarding the increased risk, disasters, and crises arising from the business environment (Herbane et al., 2004; Kash and Darling, 1998). A review of the literature indicates that there are a number of factors (i.e. concerns or pressures) that may influence an organization’s decision on whether or not to raise BCM to a strategic level (i.e. place BCM in the context of SP). These factors can be either internal or external with respect to an organization or both.

Researchers (e.g. Roberts, 2008; Clas, 2008; Hanson, 2006; Gibb and Buchanan, 2006; Pitt and Goyal, 2004; Ritchie, 2004; Hiles, 2004; Herbane et al., 2004; Smith and the Business Continuity Institute, 2003; Smith, 2002; and Kash and Darling, 1998) have highlighted the factors and organizational concerns which may alert strategic planners to the inevitability of disasters and crises happening and to the significance of raising BCM to a strategic level. Accordingly, the external factors (i.e. factors arising from the external business environment) include: the increasing number of disasters and crises; corporate concerns about protecting customers; concerns about political risks and terrorism; concerns about economic risk; concerns about socio-cultural risk; concerns about technology risk; concerns about environmental risks (e.g. natural hazards and global warming); concerns about risks associated with globalization; and the need to comply to international standards and legal regulations, such as corporate governance, BS 25999 and the civil act. The internal factors (i.e. factors arising from inside the organization) include: the concerns about risk that may impact corporate facilities, people and systems and the concerns about sustaining competitive advantage, as well as the availability of budgets, human skills, infrastructure, and time.

In addition, KPMG’s - a global network of professional service organizations- 2008 survey conducted by Questex Asia in China with 215 executives revealed that the awareness of BCM is rising with top executives owing and driving it. It was found that there were ten major factors that drive Chinese executives and organizations to have BCM and to draw more attention to its high-level significance. These include: business continuity and timely recovery of business operations and critical functions; corporate

governance; employee safety; unique competitive advantage; customer request/requirement; positive client image; regulatory compliance; service/product differentiator; insurance incentives; and market competition (KPMG, 2009).

This section aims to identify the factors that are likely to drive (i.e. encourage) and obstruct (i.e. discourage) an organization from having an integrated framework for BCM and SP. Nevertheless, this research does not seek to establish a comprehensive list of such factors, but rather examine those that have been presented in the literature and allowing respondents to provide a list with the driving factors and obstacles based on their own experience in their organizations.

Researchers e.g. Pollard and Hotho (2006), Preble (1997) and Mitroff et al. (1992) have argued that crisis management (CM) can be integrated with strategic management (SM) based on the similarities (i.e. common characteristics) they share, which can also be considered as driving factors. These driving factors are: both CM and SM focus on environmental relations; both require the involvement of a complex set of stakeholders; both require the involvement and support of senior management; both are concerned with the long-term survival of the organization; and both are emergent processes. Similarly, since CM can be considered the roots of BCM, and since BCM and CM are becoming increasingly interchangeable (Elliott et al., 2010; and Herbane et al., 2004), BCM can be placed in the context of SP (i.e. BCM can be integrated with SP) based on the similarities (common characteristics) between the two (Herbane et al., 2004). These common characteristics can be considered as drivers (i.e. factors that are likely to drive or encourage the placing of BCM in the context of SP). Therefore, based on reviewing the literature of BCM presented in chapter 2, and the literature of SP presented in chapter 3, the following similarities (common characteristics) were identified between BCM and SP:

both BCM and SP involve ensuring the long-term survival of the organization;

both BCM and SP involve minimizing risk that may possibly threaten an organization;

both BCM and SP require the involvement of senior management;

both BCM and SP involve protecting and maintaining customers;

both BCM and SP focus on environmental relations.

Alternatively, Preble (1997) and Mitroff et al. (1992) argued that there were a number of factors that can obstruct (i.e. discourage) the integration of CM with SM. These were:

Illusion of invulnerability;

Fear of cultural change;

Lack of skilled personnel;

the high cost of implementing an integrated framework of CM and SM.

Similarly, since CM can be considered the roots of BCM, and since BCM and CM are becoming increasingly interchangeable, the same factors may possibly obstruct (discourage) the placing of BCM in the context of SP. These driving forces and obstacles are discussed in more detail in the next chapter.

### **3.5 Summary**

During the late 1970s and 1980s, SP experienced a decline in its popularity and influence and failed to deliver many of its expected outcomes. The traditional approach to SP, which was mainly based on rivalry and on building only an offensive corporate capability, drew less attention to issues, such as: building a corporate defensive capability; planning for organizational risk, disasters and crises that may possibly disrupt business operations; and the management of business continuity.

The literature review provided an understanding of the significance of placing BCM in the context of SP (i.e. integrating BCM with SP in one framework). By doing so, SP vulnerability may be improved and SP will more likely enable an organization to adapt more effectively in an environment full of unexpected incidents and will help an organization to manage disasters and crises more effectively.

Placing BCM in the context of SP requires senior management support and commitment. It also requires the involvement of all departments in order to ensure the long-term survival of the entire organization and the continuity of its business operations. Despite the fact that there are a number of factors that may possibly drive (i.e. encourage) the placing of BCM in the context of SP, there are also a number of factors that may possibly discourage (i.e. obstruct) the placing of BCM in the context of SP.

# **CHAPTER**

# **4**

## **CONCEPTUAL MODEL**

## Content

4.1 Introduction	78
4.2 Development of the research conceptual model	78
4.3 The use of BCM and the existence of an integrated framework for BCM and SP	80
4.4 Existing research regarding BCM practice	80
4.5 Purpose of strategic planning	86
4.6 The steps required in order to place BCM in the context of SP	87
4.7 Factors influencing the placing of BCM in the context of SP	91
4.7.1 Driving factors	91
4.7.2 Obstacles	94
4.8 Managers' views of BCM and the placing of BCM in the context of SP	97
4.9 Summary	98

## **4.1 Introduction**

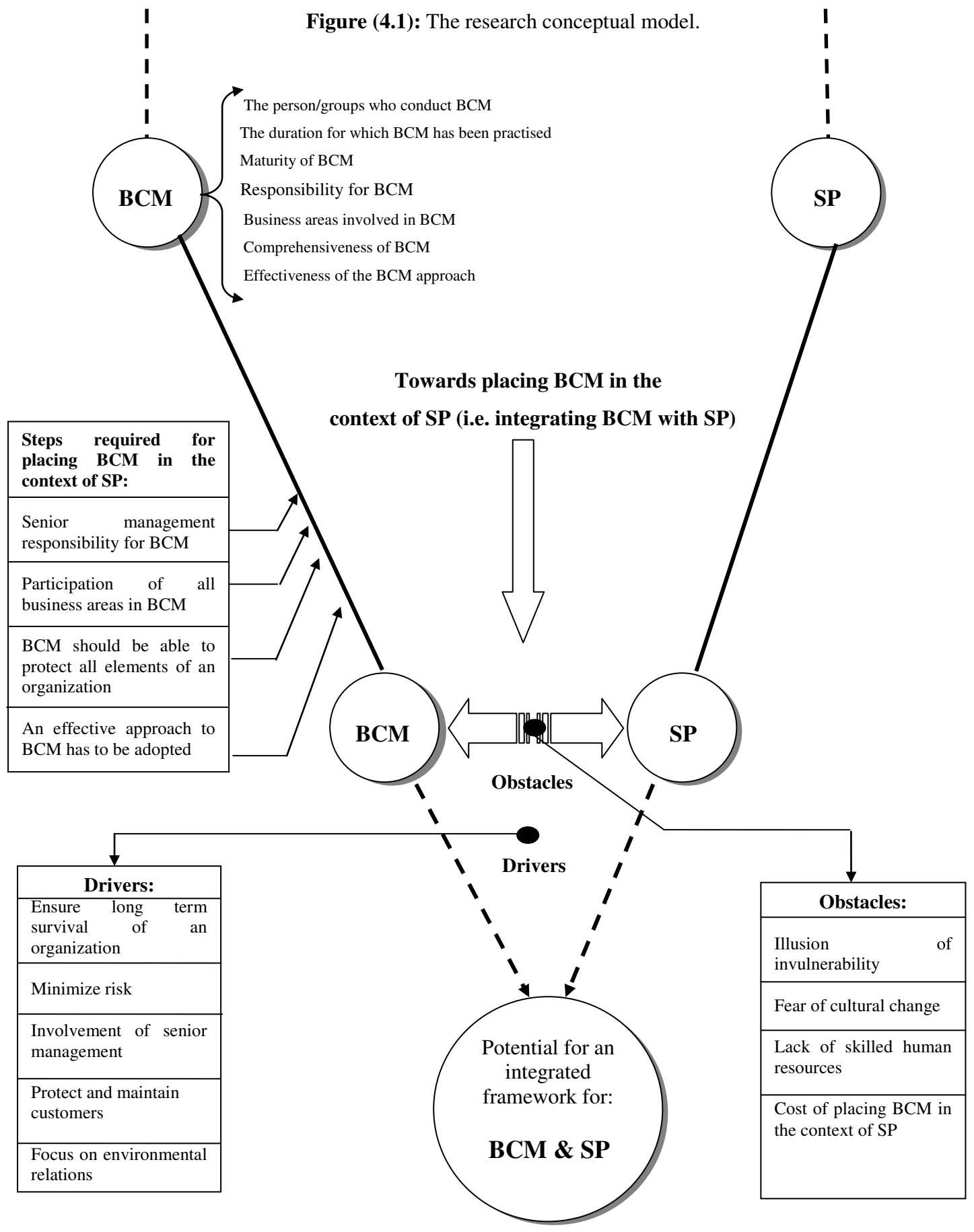
In chapters 2 and 3, key issues for the research were identified and discussed. These were: the significance and role of BCM; the role, significance and vulnerability of SP; the rationale for placing BCM in the context of SP and the factors that are likely to drive or obstruct placing BCM in the context of SP. This chapter aims to describe how these issues will be examined empirically. In order to achieve this, a conceptual model is developed based on the literature review and in relation to the research objectives.

## **4.2 Development of the research conceptual model**

The conceptual model adopted in this research is illustrated in figure 4.1. The model has been developed via synthesizing the literature presented in chapters two and three. The two dotted lines at the top of the figure show that BCM and SP have been evolving separately (Herbane et al., 2004). However, Herbane et al. (2004) noted that there is a potential for common ground between BCM and SP. The literature review showed that placing BCM in the context of SP (i.e. integrating BCM with SP) can help to develop an organizational capability of resilience and yield many organizational benefits. A number of steps are required to be undertaken in order to place BCM in the context of SP. These include: BCM should be a responsibility of senior management; participation of all business areas in BCM; BCM should be able to protect the entire organization (i.e. all elements of an organization); and an effective approach to BCM has to be adopted.

There are a number of factors that drive (i.e. encourage) BCM to be placed in the context of SP based on a number of similarities between BCM and SP including: a) both BCM and SP are concerned with ensuring long-term survival of an organization, b) both BCM and SP are concerned with minimizing risk (e.g. technology, economic, political, natural, biological, and social risks, as well as internal organizational risks); c) both BCM and SP require the involvement of senior management; d) both BCM and SP are concerned with protecting and maintaining customers; and e) both BCM and SP focus on environmental relations. On the other hand, the literature showed that there are a number of factors that are likely to obstruct (i.e. discourage) BCM to be placed in the context of SP; namely: a) illusion of invulnerability; b) fear of cultural change; c) the lack of skilled human resources; and d) the cost of placing BCM in the context of SP.

**Figure (4.1):** The research conceptual model.





### **4.3 The use of BCM and the existence of an integrated framework for BCM and SP**

In chapters two and three, the significance of BCM and the rationale for placing BCM in the context of SP have been discussed. The literature showed that BCM has been used in many organizations in many countries around the world. In addition, Wong (2009), Foster and Dye (2005) and Herbane et al. (2004) focused on the significance of placing BCM in the context of SP (i.e. integrating BCM with SP in one framework) in order to develop a corporate capability of resilience. This discussion relates to the first objective of this research, which is:

**To investigate the use of BCM and the existence of an integrated framework for BCM and SP in Jordanian organizations. This will be achieved without developing a formal hypothesis.**

This analysis helps to reveal whether or not BCM was used in Jordanian organizations from different sectors and whether or not these organizations had an integrated framework for BCM and SP.

### **4.4 Existing research regarding BCM practice**

The literature does not show a formal or systematic approach for studying BCM practice. Overall, BCM practice requires a commitment to an ongoing set of activities (Koch, 2004). Research (e.g. Woodman and Hutchings, 2010; Woodman, 2008; Alesi, 2008; Woodman, 2007; Herbane et al., 2004; Pitt and Goyal, 2004; Koch, 2004; Cerullo and Cerullo, 2004; Msezane and McBride, 2002) identified and focused on key aspects related to the practice of BCM and highlighted the significance of having a multidimensional approach.

In their empirical study, Pitt and Goyal (2004) studied BCM practice within organizations of various sizes in the U.K. from the manufacturing, as well as some other sectors by first investigating whether or not those organizations had BCM in place. Second, they investigated the duration for which BCM has been practised. Third, they investigated the approach to BCM by examining the frequency of testing, reviewing and updating of the business continuity plans. Fourth, they investigated the comprehensiveness of BCM, that is, if BCM was designed in order to prevent/reduce impacts of disasters and crises on

different elements of an organization including: IT, buildings and facilities, equipment, processes and employees. Fifth, they investigated the business areas involved in BCM (i.e. the participants involved in BCM). Finally, they investigated the person or groups of people who were responsible for BCM.

Other empirical studies, such as Woodman and Hutchings (2010), Woodman (2008) and Woodman (2007), focused on the person or groups responsible for BCM; the effectiveness of BCM (i.e. how often BCM plans are tested, trained, updated, and maintained); and the areas included in BCM (i.e. participants and key players).

In another attempt, Koch (2004) focused on the groups of people who should be responsible for BCM; the involvement of different business areas in BCM; the comprehensiveness of BCM; the approach to BCM, which includes: performing risk analysis and BIA; developing backup strategies; developing recovery and continuity plans; and testing and updating these plans.

Other studies such as Herbane et al. (2004) and Msezane and McBride (2002) focused on the comprehensiveness of BCM; its maturity levels; and key personnel conducting BCM. Therefore, based on a comprehensive review of such studies, it was possible to identify the key aspects that can help to examine the practice of BCM in Jordanian organizations. There follows a discussion of the key aspects of BCM practice.

#### **a) The person/groups conducting BCM**

Alesi (2008), Henry (2006), and Pitt and Goyal (2004) argued that the BCM-related plans can be implemented and conducted using staff from inside the organization (i.e. in-house BCM), or by using external consultants, or by using both. The advantage of implementing an in-house BCM is that it enables the organization to link between BCM and the business plan and facilitates testing, training, maintenance and updating activities. The use of external consultant is also significant because their experience will enhance BCM by bringing new perspectives and by speeding up the BCM process. They can also assure that an organization is adequately covered for various situations and for information of past disasters and crises that can teach how to mitigate or avoid similar future events (Krummert, 2005; Gallagher, 2003). Chow (2000) also argued that involving external consultants is also significant to the overall integrity of plans since the use of external consultants to review the technical, business, or organizational aspects of the plans is

likely to detect weaknesses that may not be obvious to internal staff. The involvement of a combination of in-house staff and outside consultants to develop and conduct the plans is usually effective because it will provide the opportunity to capitalize on outside expertise.

### **b) The duration for which BCM has been practised**

Pitt and Goyal (2004) focused on the duration for which BCM has been practised. The importance of examining the duration for which BCM has been practised in an organization is that it helps to understand new trends that show growth in the adoption of BCM in recent years. It can also help as an indicator for the level of maturity and comprehensiveness of BCM (i.e. the longer BCM is practised, the higher the maturity level and the more comprehensive it is likely to be).

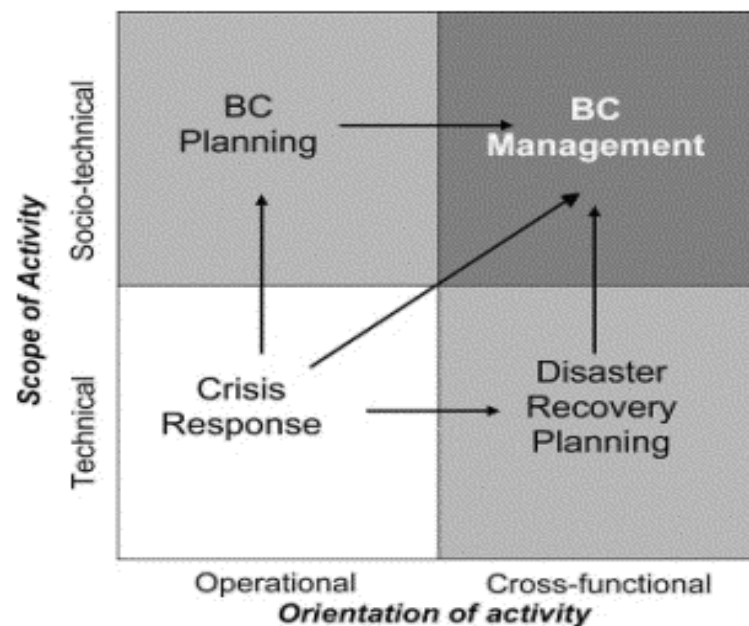
### **c) Maturity of BCM**

The level of maturity of BCM in an organization can be studied and understood in relation to BCM evolution. Cervone (2006) and Krell (2006) argued that disaster recovery planning- which focused primarily on the operational and technical recovery and resided in the IT department- represented the core of business continuity in the past. Later, disaster recovery planning evolved to the broader concept of business continuity planning which suggested the expansion of the disaster recovery efforts beyond the IT function and department and encompassed a wider scope of activity including technical and social aspects of an organization (i.e. there was a shift from the IT recovery to the recovery and resumption of activities across the entire organization). Later, in the early 2000s, the term BCM was introduced with a focus on a strategic orientation of business continuity and an enterprise-wide involvement and influence.

As evidence, and as part of Marsh's 2008 survey report, it was believed that BCM has gone through different levels of maturity starting from a technical-operational level to a strategic-oriented level (Marsh, 2008). Other researchers, such as Herbane et al. (2004) and Gallagher (2003) studied the maturity levels of BCM in an organization and classified them into four levels based on two factors: orientation of activity (i.e. whether the continuity approach is operational or cross-functional), and scope of activity (whether BCM is designed to help the organization to cope with only technical disasters/crises or socio-technical disasters/crises) (see figure 4.2 for an illustration).

At the first level, BCM covers only the technical and operational aspects of an organization (i.e. crisis response), which provides a low capability to respond to disasters and crises, since at this level, business continuity has less capacity to anticipate risk, and therefore, limit potential losses. At the second level, BCM is one step ahead towards planning for all technical interruptions across the entire organization (disaster recovery planning). At the third level, BCM covers all the technical and social interruptions that may possibly occur across the entire organization (business continuity planning). At the fourth level, which represents the highest level of maturity, BCM is seen as a strategic-oriented process which has the capacity to cover a wider range of disasters and crises across the entire organization.

**Figure (4.2):** Typology of continuity approaches.



**Source:** Herbane et al. (2004).

**d) Responsibility for BCM**

The issue of who should take responsibility for BCM was discussed in the literature (e.g. Woodman and Hutchings, 2010; Vallender, 2009; Ernst & Young, 2008b; Gibb and Buchanan, 2006; Gallagher, 2005; and Foster and Dye, 2005). These studies proposed/recommended that BCM should be one of the responsibilities of the highest level of management within the organization- that is senior management. Empirical studies, such as Woodman (2008) and Woodman (2007) also showed that the senior

management in many organizations was responsible for BCM. Herbane et al. (2004) argued that senior management should take responsibility for BCM because crisis-related decisions -which have direct influence on the long-term survival of an organization -are usually taken by senior managers.

#### **e) Business areas (i.e. participants) involved in BCM**

In the last few decades, business continuity was seen as an IT issue and the IT department was the major participant involved in it since the primary focus was drawn on the continuity and recovery of IT and systems (Gill, 2006; Gibb and Buchanan, 2006; and Gallagher, 2005). However, at the beginning of the new millennium, there was a shift in the perspective of business continuity where the participation of other business areas has become crucial to the overall success of BCM since the main goal of BCM has changed into ensuring the continuity of all critical business functions during disasters and crises (Gallagher, 2003). “*Business Continuity Management is not just about information systems*” (Hecht, 2002).

A number of researchers (e.g. Woodman and Hutchings, 2010; Elliott et al., 2010; Woodman, 2008; Woodman, 2007; Smith, 2002; Msezane and McBride, 2002) have highlighted that the involvement of different business areas and a cross-functional effort are required in BCM. Such studies showed that business areas including IT, finance, risk, security, human resources, health and safety, public relations and marketing should get involved in BCM. The department-level business continuity measures, as noted by Lindstrom et al. (2010), are significant to the overall BCM effort since they keep BCM plans up to date with all the changes that occur at this level.

#### **f) Comprehensiveness of BCM**

For many years, BCM was considered an IT issue and fixing IT problems and ensuring IT continuity were the primary goals of BCM (Gibb and Buchanan, 2006). Even in the 2000's, there is still some literature which shows a closer relationship between BCM and IT than other business areas (e.g. Lindstrom et al., 2010; Bajgoric and Moon, 2009; Quirschmayr, 2004). However, Garcia (2008) and Herbane et al. (2004) argued that senior management should look beyond the technical aspects of the organization. Brazeau (2008); Garcia (2008); Horner (2006); Pitt and Goyal (2004); Herbane et al. (2004); Gallagher (2003); and Smith (2002) studied the comprehensiveness of BCM from a broader perspective.

These studies showed that the more BCM is concerned with the unfavourable impacts of disasters and crises on all the different elements of an organization (i.e. IT systems, employees, processes, infrastructure, premises and facilities, customers, suppliers and third parties, and corporate reputation), the more comprehensive it will be since all of these elements of an organization are to a greater or lesser extent sensitive to risk (Herbane et al., 2004). Foster and Dye (2005) also argued that it is the responsibility of senior management to create business resilience by securing people and core business, including systems, facilities, infrastructure, and processes.

#### **g) Effectiveness of the approach to BCM**

Although there are several approaches to BCM, there is no commonly accepted one (Gallagher, 2003). Elliott et al. (2010); Drewitt (2008); Clas (2008); Selden and Perks (2007); Gibb and Buchanan (2006); Gallagher (2005); Botha and Solms (2004); Pitt and Goyal (2004); Koch (2004); Smith (2002); and Nosworthy (2000) have all presented various approaches to BCM. Such literature indicates that the effectiveness of the BCM approach relies on performing a number of activities. It also relies on the extent to which these activities facilitate embedding BCM in the organization's culture and encourage people from all management levels to be involved in BCM through periodic testing, updating, maintenance and training. *"Everyone within an organization must embrace BCM for it to be effective"* (Brazeau, 2008). An effective approach to BCM, as discussed in section 2.3.2, relies on performing the following activities: project planning; creating teams and assigning roles and responsibilities; performing risk analysis and BIA; developing backup and data recovery strategies; developing the disaster recovery plan; developing the business continuity plan; and testing; training; maintaining; and updating the developed plans.

The above discussion relates to the second objective of this research, which is:

#### **To examine the practice of BCM in Jordanian organizations. This objective will be examined without developing a formal hypothesis.**

Examining the practice of BCM involves examining the abovementioned aspects using frequency tables and testing for relationships and differences between these aspects and organizational characteristics, such as industry sector (type of business), size and age of the organization.

## 4.5 Purpose of strategic planning

The literature review in Chapter 3 showed that SP is important for achieving various organizational purposes, such as: achieving sustainable competitive advantage; motivating innovation and creation; implementing productive action plans and ensuring ongoing growth and success of the organization. The literature review also showed that SP had an area of vulnerability as it focused mainly on developing a corporate offensive capability and drew less attention to developing a corporate defensive capability that is necessary for preventing and reducing impacts of unexpected disasters and crises. Less attention has been drawn to issues, such as the scanning of the business environment, as well as BCM components, including continuity and recovery planning in strategic planning.

In this section, an investigation of the importance of SP for achieving different organizational purposes will be carried out empirically in order to find out whether or not SP helps to achieve organizational purposes related to BCM, such as: scanning the business environment; identifying various types of risks facing the organization; ensuring the existence of proactive business continuity planning; and ensuring effective recovery after a disaster or crisis in Jordanian organizations. This investigation will also help to reveal whether or not there are possible links and convergence between BCM and SP in Jordanian organizations.

The above discussion relates to the third objective of this research, which is:

**To Examine the purpose of SP in Jordanian organizations. This objective will be examined without developing a formal hypothesis.**

## **4.6 The steps required in order to place BCM in the context of SP**

In Chapter 3, the rationale for placing BCM in the context of SP was discussed. The literature showed that placing BCM in the context of SP (i.e. integrating BCM with SP) allows BCM to be integrated increasingly with the strategic activities and the culture of the organization where BCM is not designed to be palliative, but to improve resilience, which subsequently, will develop a greater strategic contribution for BCM. Placing BCM in the context of SP could also strengthen SP by shoring up the area of SP vulnerability. The literature showed that there was a potential for this integration to take place (e.g. Foster and Dye, 2005; Herbane et al., 2004; and Malone, 1989). However, the literature indicates that further steps are required in order to place BCM in the context of SP.

Foster and Dye (2005) argued that building continuity into strategy requires changes to be undertaken in order to raise BCM to a higher level within an organization. These changes include: the support and involvement of senior management in BCM; developing an approach to BCM that highlights critical BCM activities including testing, training, maintenance and updating of the continuity plans; and expanding the capacity of BCM to cover a wider set of possible crises and disasters in order to protect all elements of the organization. Moreover, Herbane et al. (2004) proposed that in order to place BCM in the context of SP, a number of steps could be undertaken. These are: developing a robust and comprehensive practice and approach to BCM; and attempting to shift to a strategic continuity approach that entails the involvement of senior management and the involvement of different business areas in BCM. In addition, Malone (1989) also argued that the level of business continuity depends on the support and involvement of senior management since senior executives' involvement largely dictates the future of the business. Therefore, the proposition in this section, which was based on reviewing the literature, relates to the fourth objective of this research, which is:

**To examine a number of steps that are required in order to place BCM in the context of SP in Jordanian organizations. In this section, the way to examine this empirically is discussed. In order to allow analysis of this objective, four hypotheses will be proposed and tested.**



Firstly, a holistic approach to BCM in an organization requires that BCM should be one of the responsibilities of senior management since crisis-related decisions have to be made by senior managers (Ernst & Young, 2008b; Gallagher, 2005; and Herbane et al., 2004). Accordingly, this will help to raise BCM to a strategic level. Likewise, Gibb and Buchanan (2006) argued that in order to gain a strategic position, BCM has to become the responsibility of a senior manager. The discussion in section 4.4d also showed that BCM should be a responsibility of senior management. Therefore, the proposition here is that in order to achieve an integrated framework for BCM and SP, BCM has to become one of the responsibilities of senior management. Therefore, the hypothesis is:

**H1:** There is a relationship between the existence of an integrated framework for BCM and SP and BCM being a responsibility of senior management in Jordanian organizations.

Secondly, a holistic and strategic approach to BCM requires input participation, as well as cross-functional coordination from all departments (Ernst and Young, 2008b; Gibb and Buchanan, 2006; Foster and Dye, 2005). A strategic framework for BCM is unlikely to be accomplished without help and participation from different business areas (Golden and Oblinger, 2007). BCM should be based on a collection of routines and skills from different organizational departments (e.g. IT, finance, risk and business continuity, security, human resources, health and safety, public relations and marketing) (Herbane et al., 2004; Kash and Darling, 1998). The involvement of all business areas will help to create an enterprise-wide continuity culture (Woodman and Hutchings, 2010; Gallagher, 2005). The discussion in section 4.4e showed that for many years, BCM was seen as an IT issue and resided in the IT department alone; however, the abovementioned discussion indicates that a strategic approach to BCM requires the involvement and participation of all business areas. The more the level of participation of every department within the organization in BCM, the higher the opportunity of BCM to elevate to a strategic level and to become a corporate capability (i.e. a mix of skills and routines) rather than being simply a functional or an operational process. This enterprise-wide participation will help to achieve an integrated framework for BCM and SP (Herbane et al., 2004). Therefore, the proposition here is that in order to achieve an integrated framework for BCM and SP, an enterprise-wide participation of all business areas is required in BCM. Therefore, the hypothesis is:

**H2:** There is a relationship between the existence of an integrated framework for BCM and SP and the level of participation of all departments in BCM in Jordanian organizations.

Thirdly a holistic approach to BCM requires BCM to be comprehensive in a way that it shows potential to protect all elements of the organization; that is to say, BCM should have the potential to cope with and manage risks that may possibly threaten and have impact on all elements of the organization including: IT, employees, processes, infrastructure, premises and facilities, customers, suppliers and third parties and corporate reputation (Ernst and Young, 2008b; Herbane et al., 2004). This will help to develop an enterprise-wide capability to resist and recover from disasters and crises. The capability of an organisation to resist disasters and crises or to recover quickly and reduce the impact of loss is what Herbane et al. (2004) termed value preservation. Accordingly, value preservation is: *“a background capability that is underpinned by BCM and provides an improved operational stability in which the competitive advantages achieved through the implementation of strategic initiatives can prosper”*. This does not mean that BCM necessarily leads to competitive advantage; however, without BCM; the risk exposure of the organisation is likely to increase. Therefore, its potential contribution to the organisation is that of value preservation.

This issue was also emphasized by Foster and Dye (2005) who argued that overall business resilience can be achieved by securing all of the abovementioned elements of an organization which will also help to build BCM into strategy. The discussion in section 4.4f showed that for many years BCM focused mainly on protecting IT and systems. However, a number of studies indicate that a strategic approach to BCM should be more comprehensive in a way that can ensure the protection of all elements of an organization. Therefore, the proposition here is that in order to achieve an integrated framework for BCM and SP, BCM has to be comprehensive enough in order to protect all elements of an organization. Therefore, the hypothesis is:

**H3:** There is a relationship between the existence of an integrated framework for BCM and SP and the comprehensiveness of BCM in Jordanian organizations.

Lastly, in order to help to place BCM in the context of SP, an effective approach to BCM has to be adopted. This approach provides an overall organizational capability of resilience and ability of business operations to continue running normally during disasters and crises (Herbane et al., 2004; Smith, 2002). The discussion in section 4.4g indicated that an effective approach to BCM relies on a number of activities that have to be performed. Therefore, the proposition here is that in order to achieve an integrated framework for BCM and SP, an effective approach to BCM has to be adopted. Therefore, the hypothesis is:

**H4:** There is a relationship between the existence of an integrated framework for BCM and SP and the effectiveness of the BCM approach adopted in Jordanian organizations.

## **4.7 Factors influencing the placing of BCM in the context of SP**

As was discussed in Chapter 3, Pollard and Hotho (2006); Preble (1997); and Mitroff et al. (1992) argued that crisis management can be integrated with strategic management. Similarities between the two are the driving factors for this integration, whereas, factors, such as: cost of implementation; lack of skilled human resources; illusion of invulnerability; and fear of corporate cultural change may obstruct this integration. Similarly, since crisis management is considered the roots of BCM, and since they are increasingly becoming interchangeable, BCM can be placed in the context of SP i.e. integrated with SP (e.g. Foster and Dye, 2005; Herbane et al., 2004). Similarities (common characteristics) between BCM and SP can play as driving factors. These include: a) both SP and BCM are concerned with the long term survival of the whole organization; b) both SP and BCM are concerned with minimizing risk; c) both SP and BCM presuppose the involvement of senior management; d) both SP and BCM aim to protect and maintain customers and; e) both SP and BCM focus on environmental relations. However, cost of implementation (i.e. cost of achieving an integrated framework for BCM and SP); lack of skilled human resources; illusion of invulnerability; and the fear of cultural change may obstruct this integration.

### **4.7.1 Driving factors**

The first group of factors includes those factors that are likely to drive (encourage) placing BCM in the context of SP (i.e. encourage the integration of BCM and SP). These factors include:

#### **a) Both SP and BCM are concerned with the long term survival of the organization**

The literature review in Chapter 3 showed that SP is concerned with the overall direction of an organization. It consists of a set of activities developed to improve future forecasting in order to ensure long-term survival of an organization (e.g. Malone, 1989; White, 1984). Similarly, BCM aims to ensure continuity of business operations and critical functions in the present and future, which will contribute to the long-term survival of the organization (e.g. Wong, 2009). Failing to address business continuity issues may endanger the organization and threaten its long-term existence (Elliott et al., 2010; Business Continuity Institute, 2005; Borodzicz, 2005; Hayes, 2004; Malone, 1989). Organizations that wish to sustain a level of success should invest in BCM (Hecht, 2002). “*Without a business continuity plan, a company cannot survive*” (Krell, 2006).

### **b) Both SP and BCM are concerned with minimizing risk**

In the field of strategy, organizational risk is becoming a more common issue of discussion than in the past, and a goal in strategic management (Palmer and Wiseman, 1999; Ruefli et al., 1999). In addition, the ‘SWOT’ model of strategy which was presented by Mintzberg et al. (1998) focuses on scanning the business environment in order to identify the internal strength and weaknesses of an organization, as well as external opportunities and threats it may possibly face. Identifying weaknesses and strengths, as well as opportunities and threats, is likely to improve the way the organization sees its future for the purpose of minimizing risk and impacts of risk. Similarly, in the field of BCM, an organization without BCM is likely to be exposed to a higher level of risk compared to an organization that has BCM. Having BCM enhances the organizational capability to resist disasters and crises and recover quickly and efficiently, which in turn, will minimize overall level of risk (Herbane et al., 2004; Gallagher, 2003).

### **c) Both SP and BCM presuppose the involvement of senior management**

In the field of strategic planning, the involvement of senior management is significant and necessary. The role of senior management is to periodically formulate strategies and communicate them down to the entire organization and all its management levels. In addition, the role of senior executives and senior management teams is to continuously support and reinforce strategies by providing innovative action plans and strategic insight and decisions (Ocasio and Joseph, 2008; NetMBA, 2007; Preble, 1997; and Hambrick and Manson, 1984). Similarly, in the field of BCM, the involvement, support and awareness of senior management are also significant and can determine the success or failure of BCM (Moore and Lakha, 2004; Gallagher, 2003). Vallender (2009), Brazeau (2008), and Herbane et al. (2004) described the involvement of the senior management as crucial, and without it, BCM is less likely to succeed. The discussion in section 4.4d also showed that many studies proposed that BCM has to be one of the main responsibilities of senior management since crisis-related decisions are usually made by senior management.

#### **d) Both SP and BCM focus on environmental relations**

Even though the strategy literature is a multidimensional one (Cunha and Cunha, 2006; Herbane et al., 2004; and Chaffee, 1985), it still considers planning as a primary task. For example, the planning school of strategy promotes strategic planners as analysts who are required to obtain a deep understanding of the environment. The issue of the relationship between strategy and the environment was also addressed in research, such as Farjoun (2002), McLarney (2001), Quazi (2001), and by Chaffee (1985) who asserted that “*the organization uses strategy to deal with changing environments*”. Ocasio and Joseph (2008) also suggested that SP has evolved in response to dynamic environmental conditions. Farjoun (2002) described strategy as an “organic” process which involves planned or actual coordination of the organization’s actions that continuously link the organization with its environment. This continuous alignment between the organization and its environment requires modifying the organization’s characteristics based on the changes that take place in the surrounding environment. Farjoun (2002) also represented strategy as an integral part of the Organization-Environment-Strategy-Performance model which focuses on environmental relations and their links with the organization. Similarly, BCM embraces adaptive systems and focuses on environmental relations. It involves proactive monitoring and scanning of the business environment in order to identify internal and external risks that may possibly threaten the organization, including political, economic, social and technological threats (Garcia, 2008; Msezane and McBride, 2002; Devargas, 1999). Moreover, Gallagher (2005) argued that BCM requires continuous study of the changes that take place in the business environment in order to keep the business continuity plans up to date and workable.

#### **e) Both SP and BCM aim to protect and maintain customers**

SP, according to Quinn (1980), is concerned with a wide set of stakeholders including customers, which makes it different from “*programmic planning*”. Mitroff et al. (1992) also added that this set of stakeholders includes distributors, buyers, and suppliers, as well as customers. Similarly, because organizational risk, disasters, and crises may possibly affect all people, BCM is also concerned with a wide set of stakeholders including customers who have to be protected and preserved in the event of a disaster or crisis (Low et al., 2010; Elliott et al., 2010; Krummert, 2005; Castillo, 2004).

## **4.7.2 Obstacles**

The second group of factors includes those factors that are likely to obstruct placing BCM in the context of SP (i.e. may possibly obstruct integrating BCM with SP in one framework). These factors are:

### **a) Cost of implementation**

Even though a strategic BCM framework may not necessarily be expensive to achieve, still one of the factors that may possibly explain why a strategic approach to BCM is not yet adopted in many organizations is the lack of budgets, as well as the extra costs that are likely to be associated with the implementation of an enterprise-wide and holistic BCM. The cost of achieving an integrated framework for BCM and SP may possibly cause senior management to think that BCM is not an immediate requirement/priority as it requires extra spending on staffing, training, testing and systems (Gallagher, 2005). The issue of cost was also addressed in the research, such as Golden and Oblinger (2007); Jordan (1999); and Ernst & Young (1996). Such studies showed that some organizations may possibly perceive the additional costs of implementing business continuity solutions as a burden to the business and consequently they will not use business continuity solutions.

### **b) Lack of skilled human resources**

Scarcity of human resources in some organizations, especially the skilled personnel who are capable of providing the knowledge and experience to manage and steer BCM and place it in the context of SP, is likely to be another obstacle (Jordan, 1999; Preble, 1997). The findings of a study conducted by Ernst and Young of over 1100 organizations in the U.K. and 1300 in the U.S. revealed that about 65% of the U.K. respondents and 66% of the U.S. respondents felt that the lack of qualified human resources is a major barrier to the implementation of robust business continuity solutions (Ernst & Young, 1996).

### **c) Illusion of invulnerability**

Preble (1997) thought that one of the factors that may possibly slow down or discourage integrating crisis management -which is considered the roots of BCM (Herbane et al., 2004) - into strategic management is “illusion of invulnerability”. Smith and the Business Continuity Institute (2003), Smith (2002), and Preble (1997) argued that organizations may believe that they are immune from experiencing disaster or crisis events, and such events can only happen to other organizations. This belief results in an illusion of

invulnerability. This issue was also addressed by Roberts (2008) who argued that executives fail to appreciate the significance of BCM since they feel that organizational risks, disasters and crises are rare in their occurrence and are less likely to happen in their organizations despite the fact that risk has become a major political, social and economic construct of the 21<sup>st</sup> century and is also an inherent part of any organization and may possibly cover many aspects of corporate activities and may exist at all management levels (Smith et al., 2002; Tchankova, 2002). As evidence, the findings of an empirical study of a large number of U.K. organizations carried out over the period 1997 to 2002 revealed that 99% of organizations experienced disasters and crises which resulted in loss of value of at least 10% (Roberts, 2008). This indicates that almost all organizations might possibly be exposed to risk, disasters, and crises arising from their business environments.

This feeling of strength (i.e. illusion of invulnerability) may also be a result of “faulty realizations” (Simola, 2005; Devargas, 1999; Mitroff et al., 1992). Faulty realizations include: a) some organizations might think their size protects them from being exposed to disasters/crises, b) some organizations might think their resources (e.g. human, IT or financial) may protect them, c) some organizations might feel their overall exposure to risk is low and that particular crises only happen to others, d) some organizations might think their location prevents them from having disasters or crises, or, e) some other organizations may think that managing disasters and crises is merely a luxurious activity. Other senior managers believe that disasters and crises are addressed in their organizations, where indeed, they lack for actual implementation and sound action plans for managing risk, disasters and crises (Kash and Darling, 1998).

Therefore, illusion of invulnerability may obstruct BCM being placed in the context of SP as it reduces the need for having BCM in place. A real example of the catastrophic consequences resulting from illusion of invulnerability is the foundering of the ship “Titanic”. Smith et al. (2002) argued that because of the high level of confidence in the power of technology and humans ability to manage it, managers of the Titanic were complacent that the ship was unlikely to sink no matter how extreme sea conditions were. This led to the neglect of safety and lifeboat procedures and resulted in the occurrence of one of the major disasters of the 20<sup>th</sup> century.



#### **d) Fear of cultural change**

Smith and the Business Continuity Institute (2003) argued that every organization consists of people, and people at the top who create, lead and sustain the culture of the organization. In this context, BCM is not just a set of tools and procedures that have to be implemented once only. BCM should further reflect an organized attitude and discipline practised by managers and staff. Therefore, in order to successfully establish robust and holistic BCM, BCM must be embedded in the culture of the organization and its management style (Elliott et al., 2010; Gallagher, 2003). Herbane et al. (2004) added that unless BCM is embedded in the culture of the organization, it is less likely to contribute effectively to business continuity objectives and the long-term survival of the organization.

However, embedding BCM in the culture of the organization might be time consuming (Gallagher, 2003). It also requires corporate changes, enterprise-wide involvement, and the participation of all people, as well as a variety of business areas to work in teams that are capable of acting effectively during a disaster or crisis. In addition, it requires continuous training and testing of employees, as well as updating and maintaining of the continuity and recovery plans (Elliott et al., 2010; Koch, 2004; Smith and the Business Continuity Institute, 2003; Cummings, 2003). Preble (1997) and Mitroff et al. (1992) argued that embedding crisis management in the culture of the organization (integrating the crisis management perspective into the strategic management process) might possibly stimulate cultural change and could transform an organization from being crisis prone to being crisis prepared. This cultural shift may be perceived as threatening, especially for those organizations that are not fully prepared to make this change. As a result, fear of cultural change may possibly become a barrier and can obstruct the placing of BCM in the context of SP.

This discussion relates to the fifth objective of this research, which is:

**To examine the factors that are likely to drive (i.e. encourage), as well as the factors that are likely to obstruct (i.e. discourage) Jordanian organizations from placing BCM in the context of SP. This objective will be examined without developing a formal hypothesis.**

## **4.8 Managers' views of BCM and the placing of BCM in the context of SP**

To allow further analysis, this research will examine managers' views of BCM and the placing of BCM in the context of SP (i.e. the integration of BCM with SP in one framework) in Jordanian organizations. This involves examining a number of statements including: "business continuity management is an extra burden to business"; "there is a potential for business continuity management to be integrated with strategic planning in your organization"; "business continuity management will help your organization cope with various types of disasters/crises if it is integrated with corporate strategic planning"; and "business continuity management is an integral part of the organization's approach to risk". These statements have been deduced from the literature (e.g. Quinn, 2008; Herbane et al., 2004; and Cerullo and Cerullo, 2004).

This discussion relates to the sixth objective of this research, which is:

**To report managers' views of BCM and the placing of BCM in the context of SP.**  
**This objective will be achieved without developing a formal hypothesis.**

## **4.9 Summary**

In this chapter, the research conceptual model was developed and introduced based on a comprehensive review of the existing literature, and aspects related to the research objectives were clarified and discussed. Moreover, research hypotheses were also deduced based on a review of the literature. The basis for examining different research aspects including the use of BCM and the existence of an integrated framework for BCM and SP; the practice of BCM; the role of SP in helping to achieve different organizational purposes; the steps required in order to place BCM in the context of SP; the factors influencing the placing of BCM in the context of SP; and managers' views of BCM and the placing of BCM in the context of SP were discussed. Further analysis of these aspects will be the focus of the empirical part of this research.

# **CHAPTER**

# **5**

## **RESEARCH METHODOLOGY**

## Contents

5.1 Introduction	101
5.2 Background to research methodology	101
5.3 Research philosophy	103
5.4 Research approach	105
5.5 Research strategy	106
5.5.1 Research design	107
5.5.2 Research time dimension	108
5.6 Data collection methods	109
5.6.1 Interviewer-administered questionnaires	111
5.6.1.1 Sample	114
5.6.1.2 Background to the business environment in Jordan	115
5.6.1.3 Steps in designing the questionnaire	120
5.6.1.4 The translation of the questionnaire	126
5.6.1.5 Questionnaire contents	129
5.6.1.6 Response rate	134
5.6.2 Semi-structured interviews	137
5.6.2.1 Sample	138
5.6.3 Validity and reliability	140
5.6.3.1 The validity of data collection method	140
5.6.3.2 The reliability of data collection method	141
5.7 Statistical methods used for data analysis	144
5.7.1 Descriptive statistics	144
5.7.2 Inferential statistics	144
5.8 Summary	148

## **5.1 Introduction**

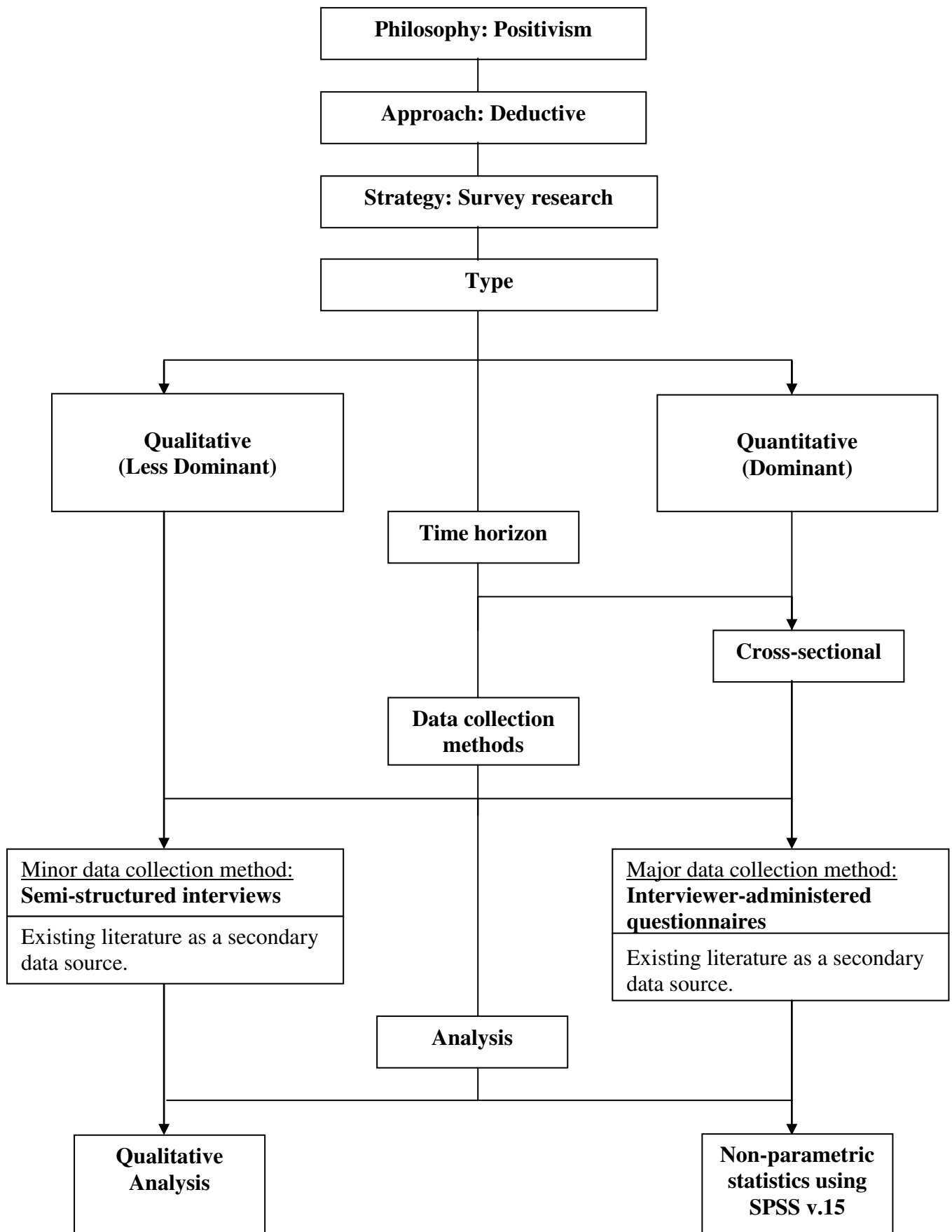
The aim of this chapter is to discuss the methodology of the research and the selection of the different aspects related to the research process. In order to do so, the chapter is divided into six main sections. In section 5.2, the background to the research methodology is introduced. In section 5.3, research philosophy is discussed. In section 5.4, the approach which is applied in this research is presented. In section 5.5, the research strategy is discussed including research design and time dimension. In section 5.6, data collection methods including the research questionnaire and interviews and the primary and secondary data sources are revealed. Section 5.6 also includes a background to the business environment in Jordan, as well as a discussion of issues related to validity and reliability of the data collection method. Finally, in section 5.7, the statistical methods which are used for the purpose of data analysis and hypotheses testing, including descriptive and inferential statistics, are discussed.

## **5.2 Background to research methodology**

Collis and Hussey (2003) argued that the research methodology is concerned with the entire research process. The research process is defined as a set of linked multi-stage procedures required to undertake and complete a research project (Saunders et al., 2000). Saunders et al. (2000) presented the stages of the research process as layers (i.e. levels) of a research process “onion”, and therefore, the research process involves unfolding the layers of this onion one after the other starting with the: research philosophy, research approach, research strategy, research time horizon, and data collection methods. As an illustration, figure 5.1 is developed in order to summarize and clarify the overall methodology of this research.

The following sections aim to explain and justify this methodology and the selection of the different aspects related to it. Most importantly, for research in many fields, clearly defined aims and objectives are considered major cornerstones for the selection and the development of the most appropriate aspects of the research process. The research aims and objectives guide many of the significant choices through the duration of the research project (Partington, 2002; and Saunders et al., 2000). Therefore, in this research, the selection of all aspects related to the research process was made in relation to the research aim and objectives.

**Figure (5.1):** The research methodology.



### 5.3 Research philosophy

According to Saunders et al. (2000), research philosophy reflects the way we think about the development of knowledge, which consequently determines the way a particular research project should be undertaken and determines how the overall research process should be carried out. Research philosophy also suggests how to adapt the research design with respect to constraints of knowledge structures (Easterby-Smith et al., 2008). Easterby-Smith et al. (2002) and Saunders et al. (2000) argued that there are two philosophical traditions that determine how social research is undertaken: positivism and phenomenology (i.e. social constructionism).

Positivism is drawn from combining logic and rationality with empirical observation (Partington, 2002). It advocates the application of the methods of natural sciences to the study of social reality (Bryman and Bell, 2007). As an illustration, in natural sciences, a scientific method consists of a set of procedures that is used for developing and then testing theories (Maylor and Blackmon, 2005). The key idea of positivism is that the social world exists externally, and that its characteristics have to be measured using objective methods rather than being inferred subjectively by sensation, reflection or intuition (Easterby-Smith et al., 2008). Phenomenology is a contrasting tradition to positivism. Phenomenologists believe that it is better to revise the rationalist critique by assuming that the flux of experience itself contains an inherent logic and rationality (Partington, 2002) which requires social scientists to grasp the subjective meaning of social action (Bryman and Bell, 2007). Phenomenology focuses on the ways people make sense of the world by sharing experiences with others through the medium of language (Easterby-Smith et al., 2008). As an illustration, table 5.1 shows the contrasting implications of positivism and phenomenology.

**Table (5.1):** Positivism and phenomenology compared.

Positivism	Phenomenology
<b>Ideology</b>	
<ul style="list-style-type: none"> <li>• Objectivist: there is an external viewpoint from which it is possible to view the world or organizations.</li> <li>• Observer is independent.</li> </ul>	<ul style="list-style-type: none"> <li>• Subjectivist: the world and organizations are socially constructed.</li> <li>• Observer is part of what is being observed.</li> </ul>



<b>The Researcher</b>	
<ul style="list-style-type: none"> <li>• Is an object of enquiry who believes that good research is done by undistorted recording of observations using efficiency-driven method of investigation.</li> <li>• Focuses on facts.</li> </ul>	<ul style="list-style-type: none"> <li>• Believes that ‘to know’ is to experience directly, immediately and purely.</li> <li>• Focuses on meanings.</li> </ul>
<b>Research progress</b>	
<ul style="list-style-type: none"> <li>• Hypothetico-deductive.</li> <li>• Utilizes quantitative data.</li> <li>• Based on cause and effect.</li> <li>• Context-free.</li> <li>• Scientific and experimentalist.</li> </ul>	<ul style="list-style-type: none"> <li>• Gathering data from which ideas are induced.</li> <li>• Use of qualitative words.</li> <li>• Mutual simultaneous shaping of factors.</li> <li>• Context-bound.</li> <li>• Humanistic and interpretivist.</li> </ul>
<b>Preferred methods include:</b>	
<ul style="list-style-type: none"> <li>• Taking large samples.</li> <li>• Static design: categories isolated before study.</li> <li>• Focus on explanation and prediction.</li> </ul>	<ul style="list-style-type: none"> <li>• Exploring small samples in-depth or overtime.</li> <li>• Emerging design: categories identified during research.</li> <li>• Focus on generating local understanding.</li> </ul>

**Developed from:** Lee and Lings (2008); Bryman and Bell (2007); Maylor and Blackmon (2005); Partington (2002); Hussey and Hussey (1997); and Wass and Wells (1994).

Easterby-Smith et al. (2008) argued that each of these two philosophies has its own advantages and disadvantages. Positivism provides wide coverage of the range of situations rapidly and economically and facilitates statistics to be applied on larger samples. However, it is unlikely to provide deep understanding of the significance and processes people attach to actions. Positivism mainly focuses on answering questions like “what are the causes of variable x”, and shows more commitment to quantitative methods (Johnson et al., 2006). Despite that Phenomenology contributes to the evolution of new theories by understanding peoples’ meanings, adopting a phenomenological philosophy is difficult to control and the process of data collection is usually time-consuming.

Saunders et al. (2000) highlighted that the research philosophy underpins the research strategy, time horizon and data collection methods. It also determines whether the research should follow a deductive or inductive approach. Deduction is the approach through which rational conclusions are derived through logical generalization of known facts (Sekaran, 2003); that is, according to Collis and Hussey (2003), where the researcher develops hypotheses and creates a research strategy in order to test these hypotheses. In addition, deduction, as shown in table 5.1, owes more to positivism. Induction, on the other hand -which owes more to phenomenology-, is the approach through which the researcher observes a particular phenomenon, and based on this observation, he/she arrives at conclusions (Sekaran, 2003); that is according to Collis and Hussey (2003), where the researcher collects data and develops a theory based on the analysis of this data.

Sekaran (2003) argued that answers to research issues are obtained using deduction or induction, or by a combination of both. The use of a mixed approach was discussed by Easterby-Smith et al. (2008) who argued that researchers conducting research with organizations and managers usually attempt to mix both approaches. This is likely to provide more perspectives on the issue of study and reduce the weaknesses of each method while focusing on their strengths.

## **5.4 Research approach**

Induction and deduction are two approaches used to establish what is true or false in research and draw conclusions. Deduction is usually undertaken using a structured quantitative research method. Quantitative research involves numerical analysis of data and enables the use of statistical procedures to answer research questions about relationships and differences between measured variables (Ghauri and Gronhaug 2005; Partington, 2002). On the other hand, induction is usually undertaken using a less structured qualitative research method. Qualitative research involves collecting data, including words, narratives and observations, and the interpretation of this data to answer research questions about the various views of phenomena rather than numbers (Maxwell, 1996).

Partington (2002) argued that the selection of the research approach relies on the research aim and objectives. Therefore, this research is deductive. However, triangulation of primary data will be undertaken where qualitative data is used to corroborate and support quantitative findings (Bryman and Bell, 2007). The rationale for choosing a deductive approach is threefold:

a) The literature of BCM and SP allows developing theory which can be tested in later stages. This approach, as argued by Ghauri and Gronhaug (2005), is deduction.

b) Deduction can be a lower-risk approach, although there are potential risks, such as the non-return of questionnaires. In contrast, induction is a more risky approach since there is fear of not getting useful data patterns and, thus, theory would not appear (Cooper and Schindler, 2003).

c) This research attempts to generalize the findings in order to represent the entire population. This makes the choice of the deductive approach most appropriate since deduction aims to generalize findings from sample to population, while the inductive approach aims to generate theory or investigate new ideas (Saunders et al., 2007).

## **5.5 Research strategy**

According to Saunders et al. (2000), research strategy is the general plan that is used by the researcher in order to answer the research questions. Easterby-Smith et al. (2008) classified research strategies into the following categories: action research, case method, collaborative research, cooperative inquiry, ethnography, experimental methods, grounded theory, narrative methods, quasi-experiment research, and survey research. Experimental methods owe much to the natural sciences. The case study method aims to develop an intensive knowledge about a single case or a few cases. Grounded theory, cooperative inquiry, narrative methods and ethnography owe much to the inductive approach which, in turn, owes more to Phenomenology. Action and collaborative research require the researcher to work side-by-side and collaborate with practitioners and therefore require the researcher to be a part of the organization in which the research is being undertaken. They also owe more to phenomenology (Easterby-Smith et al., 2008; Saunders et al., 2000).

Survey strategy owes more to positivism. It helps business researchers to survey sizable samples in order to generalize the findings and describe the entire population's characteristics, and is usually used when the researcher aims to collect data from large samples. Moreover, a survey strategy is a highly structured strategy that facilitates the collection of standardized data (Hair et al., 2003). Saunders et al. (2000) argued that the selection criteria of a particular strategy depend on a number of factors, including: the research aim and objectives; the constraints which are likely to face the researcher, such as access to data, geographical obstacles; and the time available to the researcher. Based on this discussion, and for the purpose of this research, a survey strategy was selected. The rationale for this selection is threefold:

- a) Survey strategy is usually associated with a deductive approach (Saunders et al., 2000).
- b) Surveys are popular strategies used in business studies (Ghauri and Gronhaug, 2005).
- c) The survey strategy facilitates collecting various opinions and attitudes, as well as getting cause-and-effect relationships (Ghauri and Gronhaug, 2005) which helps to achieve the research objectives.

### **5.5.1 Research design**

Like Hair et al. (2003), Ghauri and Gronhaug (2005) classified research design into three categories: exploratory, causal and descriptive. Exploratory research is usually undertaken when the research issue is badly understood. Cooper and Schindler (2003) argued that when the area of investigation is new or unclear, or if the research variables can not be clearly identified, the researcher needs to follow an exploratory design in order to serve the purpose of the study and learn something new about the phenomenon. The purpose of causal research (usually referred to as analytical research) is to examine whether or not one event causes another, (i.e. why an event occurs, or, whether or not a change in variable 'x' causes a change in variable 'y') (Hair et al., 2003). In addition, a significant element of causation is to find out whether or not variable 'A' "produces" or "forces" variable 'B' to take place (Cooper and Schindler, 2003). Descriptive research focuses on describing phenomena as they exist now and obtaining data related to different characteristics of the issue of study. In such research, hypotheses are usually derived from the available knowledge and theory in order to guide the rest of the research process. Descriptive research can serve a variety of objectives, such as: describing phenomena;

describing and examining features and the proportions of the population which possess these features or investigating the correlation between multiple variables (Hair et al., 2003; Cooper and Schindler, 2003).

From the previous discussion, and based on the available literature of BCM and SP which enabled the researcher to develop hypotheses and to define the research variables, and bearing the research objectives in mind, this research is descriptive.

### **5.5.2 Research time dimension**

Research is also characterized by its time dimension. In this regard, there are two types of research: cross-sectional and longitudinal. Cross-sectional studies are carried out once and represent a snapshot of one point in time. In contrast, if studies are repeated over extended periods and aim to track changes over time, they are known as longitudinal studies (Cooper and Schindler, 2003). Deciding on which of these two types of research is to be selected is influenced by a number of factors, such as: the time available for the researcher (Remenyi et al., 1998); research strategy (Bryman and Bell, 2007); and practicality for organizational research (Lee and Lings, 2008). Therefore, the cross-sectional type was selected in this research. The rationale for this choice is threefold:

a) Budget and time constraints while conducting longitudinal research create the need for cross-sectional analysis, especially when undertaking research for the purpose of academic programs, such as Master and Doctoral degrees which are usually limited in time and budget (Cooper and Schindler, 2003; Saunders et al., 2000).

b) Cross-sectional studies usually serve the purpose of descriptive studies that aim to describe a detailed picture of an existing issue, or to provide a description of business elements at a given point in time (Saunders et al., 2007; Hair et al., 2003).

c) Cross-sectional studies are usually employed when the survey strategy is used on a nationwide scale (Hair et al., 2003; and Easterby-Smith et al., 2002). Therefore, they are also known as social survey design (Bryman and Bell, 2007). This type of study helps to explain how different factors are related in different organizations from a sizable population at a particular time, which in turn, helps to achieve the research objectives (Saunders et al., 2000).

## 5.6 Data collection methods

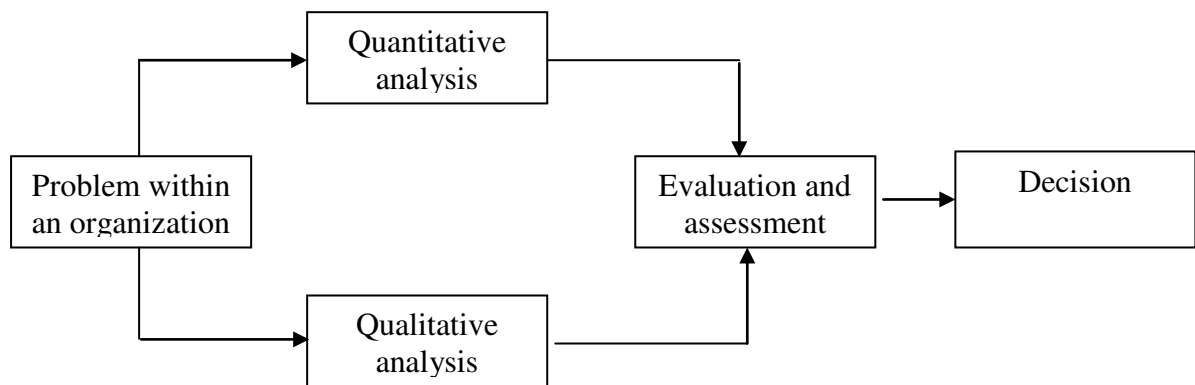
Data is defined as: *“the facts that are presented to the researcher from the research environment. Data is characterized by its abstractness, verifiability, elusiveness and closeness to the issues being studied”* (Cooper and Schindler, 2003). Data, according to Sekaran (2003), can be obtained from primary and secondary sources. Primary data refers to the information obtained first hand by the researcher regarding the research variables. Hox and Boeije (2005) argued that every time a social scientist collects primary data, a new contribution to the overall knowledge is made. This explains the significance of collecting primary data as it contributes to the novelty of research projects. Secondary data refers to information gathered by the researcher from sources already existing or information or data that have already been collected by someone else which is easier and less costly to collect compared with primary data (Blumberg et al., 2008). Using secondary data sources is also significant in research projects based on the fact that if relevant secondary data that relates to the issue being studied is accessible; this adds benefit to the overall research project and expands the scope of the research by providing the researcher with the findings and experience gained from wider samples (Hox and Boeije, 2005). In general, Saunders et al. (2000) recommended combining primary and secondary data in the same study.

Therefore, based on this discussion, and in order to gain the advantages of both; primary and secondary data sources were used in this research. In order to obtain primary and secondary data, there is a range of different data collection methods. Primary data collection methods include: administered questionnaires, interviews, observation, focus groups, and the internet if it is used as a medium for conducting a questionnaire or an interview. Secondary data collection methods include collecting documentary data, such as archives, publications, annual reports, newspapers, or surveying the internet (Hox and Boeije, 2005; Sekaran, 2003).

In addition, the type of data obtained from the research environment also serves other purposes in a research project. For instance, Blumberg et al. (2008) argued that based on the type of the data obtained; quantitative and qualitative studies can be distinguished. Quantitative studies rely on quantitative data including numbers and figures that, for example, can be obtained using administered questionnaires. By contrast, qualitative studies rely on qualitative data (e.g. words, sentences and narratives) that can be obtained

from interviews, focus groups or observation. Waters (2001) recommended combining both quantitative and qualitative approaches in the same study in order to improve the decision-making process. Comprehensive decisions are made by assessing and analyzing all the available information- both qualitative and quantitative (see figure 5.2 for an illustration). Bryman and Bell (2007) also argued that combining quantitative and qualitative data in the same study enables triangulation to be applied.

**Figure 5.2:** Quantitative and qualitative aspects of decision-making.



**Source:** Waters (2001).

Triangulation increases the confidence of the findings of quantitative research by using more than one way of measuring a concept. In other words, using quantitative and qualitative data in the same study will result in combining the specificity and accuracy of the quantitative data with the ability to interpret phenomena and complex perceptions obtained from qualitative data (Bryman and Bell, 2007). Therefore, in this research, quantitative and qualitative approaches were combined in order to achieve the research objectives.

Tashakkori and Teddlie (2003) discussed the ways in which quantitative and qualitative approaches can be combined in the same research. Accordingly, there are two ways: (Qualitative and Quantitative) and (Quantitative and Qualitative). However, there are two conditions under which these combinations are used in a research project. First, determining the level of domination of each approach (i.e. which is the dominant approach? and which is the less dominant approach?), and second, determining the pacing of approaches (i.e. simultaneous or sequential designs). Based on the research problem, objectives and the type of data the researcher wants to obtain, Blumberg et al. (2008)

argued that the main driving force which determines which approach is to be dominant and which is the less dominant can be identified; that is whether there is a dominant inductive or deductive orientation (Tashakkori and Teddlie, 2003) which, in turn, determines whether there is a dominant quantitative or qualitative orientation. Moreover, pacing of the approach is also significant. When they are used concurrently, the less dominant approach is used to draw out information that the dominant approach did not achieve. However, when used sequentially, the dominant approach is conducted first, and the less dominant approach is conducted next in order to probe and support answers and to provide a logical extension from the findings of the dominant approach.

As a result, and bearing these criteria and the aforementioned discussion in mind, the quantitative approach is used as the dominant approach and the qualitative is used as the less dominant approach in this research. In addition, the two approaches are conducted sequentially, where the quantitative approach (i.e. dominant) is conducted first followed by the qualitative approach (i.e. less dominant).

### **5.6.1 Interviewer-administered questionnaires**

Knight (2002) stated that questionnaires include all sorts of ways of obtaining written responses. Using a questionnaire in survey research enables the researcher to obtain data regarding peoples' behaviours, beliefs and opinions. It also enables the researcher to collect information about peoples' future expectations and perceptions regarding sources of risk and events (Neuman, 2000). Moreover, reviewing the literature revealed that questionnaires were commonly used as a data collection method in research on BCM (e.g. Woodman, 2008; Woodman, 2007; Williamson, 2007; Pitt and Goyal, 2004; Cerullo and Cerullo, 2004; and Chow, 2000). In addition, given that the sample of organizations is representative (the sample is discussed in later section), the findings of the questionnaire could be generalized (Knight, 2000). Moreover, organizations in Jordan may be cautious when it comes to publishing their BCM and SP information since this information may possibly be confidential. Therefore, having direct access to data regarding BCM and SP may be difficult or time consuming. Using a questionnaire method in such cases enables the researcher to collect more responses and ask sensitive questions since questionnaires are handled confidentially (Knight, 2000). This discussion justifies the use of the questionnaire method in this research.



Saunders et al. (2000) divided questionnaires into two types; self-administered and interviewer-administered. While self-administered questionnaires are completed by the respondents themselves, interviewer-administered questionnaires are completed by the interviewer based on respondents' answers. Moreover, self-administered questionnaires are three types: on-line; postal (mail); and delivery and collection questionnaires. By contrast, interviewer-administered questionnaires are of two types: telephone questionnaire and structured interviews.

The choice of the type of the questionnaire is usually influenced by the research objectives. Therefore, interviewer-administered questionnaire was selected for this research, despite the fact that this type of questionnaire is usually more time consuming and costly for the researcher (Kinght, 2002; Saunders et al., 2000). The rationale for this selection was threefold:

- a) Interviewer-administered questionnaires are likely to ensure a higher response rate compared to self-administered questionnaires (Saunders et al., 2000).
- b) Interviewer-administered questionnaires allow the researcher to include a wider range of questions compared to self-administered questionnaires (Saunders et al., 2000).
- c) The researcher felt that some of the questions that needed to be asked may be perceived as confidential or sensitive. Therefore, the existence of the interviewer will help to ensure that the questionnaire will be dealt in high confidentiality and that the information provided will not be used for other purposes than this study.

Moreover, a structured interview type of interviewer-administered questionnaire was selected in this research for the following reasons:

- a) The researcher felt that the questionnaire is relatively long since it aims to investigate the use of BCM and the existence of an integrated framework for BCM and SP; examine the practice of BCM; the purpose of SP; the steps that are required in order to place BCM in the context of SP; the factors influencing placing of BCM in the context of SP; and managers' views of BCM and placing of BCM in the context of SP. In this context, Saunders et al. (2000) highlighted that the length of the questionnaire is likely to influence the response rate; therefore, they recommended that long questionnaires are best conducted as structured interviews.

b) The presence of the interviewer is likely to encourage the respondents to complete the entire questionnaire, in contrast to on-line, postal and delivery and collection questionnaires where respondents usually ignore or fail to complete some questions (Saunders et al., 2000).

c) Open-ended and closed-ended questions can be asked more easily in structured interviews, in contrast to other types of questionnaires where open-ended questions are usually ignored or not completed by the respondents (Saunders et al., 2000 and Knight, 2002).

d) The presence of the interviewer motivates respondents' participation and offers guidance to them through the questionnaire (Knight, 2002; Saunders et al., 2000). It also allows the interviewer to clear up any possible misunderstanding (Black, 1999).

e) On-line questionnaires may be inappropriate in the context of Jordan, due to potential technology problems. According to Blumberg et al. (2008), on-line questionnaires are likely to result in low response rates due to technology problems especially if the researcher and the respondents are using different computer systems or software versions. By contrast, structured interviews do not require using technical platforms.

f) Postal (i.e. mail) questionnaires lack control over the returns. Consequently, they are likely to be time consuming (Cooper and Schindler, 2003). In addition, collecting data by mail surveys in the Arab world has been a very difficult process (Mostafa et al., 2004). By contrast, in structured interviews, the researcher is likely to have more control over the returns (Cooper and Schindler, 2003). As a result, the postal questionnaire method was rejected.

g) Delivery and collection questionnaires require visiting respondents more than one time (usually twice); first for delivery and second for collection. In Jordan, many organizations are located in different and distant parts of the country which makes it difficult and time consuming for the researcher to visit twice. In contrast, structured interviews require only one visit to each organization. Therefore, delivery and collection questionnaires were also rejected.

### 5.6.1.1 Sample

According to Easterby-Smith et al. (2008), research in social sciences involves determining the research “population” and “sample”. Population is any group that shares similar characteristics or common traits and the sample is a subset of the population from which evidence is obtained (Black, 1999). The population of interest in this research consists of all the 274 Jordanian organizations registered at the Amman Stock Exchange (ASE)<sup>7</sup>. These organizations are categorized into four sectors: 87 industrial; 17 banking; 27 insurance and 143 service organizations. In this research, the population is the sample. According to Saunders et al. (2000), when the researcher decides to collect data from the entire population, this is known as a ‘census’. The rationale for choosing the entire population in this research is fivefold:

- a) The researcher felt that the size of the population is likely to be manageable. This issue was addressed by Saunders et al. (2000) who argued that a researcher can investigate the entire population if it is of a manageable size.
- b) Up-to-date list of contact information of all the organizations registered at ASE was available to the researcher, including e-mails, telephone and fax numbers, in addition to websites and location information. This was very helpful to the researcher and saved a big portion of his time and motivated him to investigate the entire population.
- c) Ghauri and Gronhaug (2005) argued that investigating the entire population is legitimate and the researcher can choose between investigating the entire population or taking a sample.
- d) Organizations registered at the ASE contribute to the largest proportion of Jordan’s economy (Aldehayyat and Anchor, 2008).
- e) The absence of a database for the organizations that are not registered with ASE (Aldehayyat and Anchor, 2008).

Moreover, only headquarters were included in order to obtain a more homogenous sample. Subsidiaries, divisions and branches were excluded. The questionnaires targeted mainly CEOs (general managers). The rationale for targeting CEOs is threefold:

---

<sup>7</sup> According to Rawashdeh and Squalli (2005), in 2005 the number of organizations registered at ASE was 198. However, this number varies on an annual basis. In February 2009, the number was 274.

- a) According to Gibb and Buchanan (2006) and Foster and Dye (2005), senior management should take responsibility for BCM.
- b) Senior managers are aware of the entire integrity of their organizations and have the power to integrate BCM effectively in their organizations (Ashford, 2008a).
- c) Senior management should be responsible for BCM and take a dynamic leadership role rather than delegating it to middle management (Deloitte Touche Tohmatsu, 2002).

#### **5.6.1.2 Background to the business environment in Jordan**

Since Jordan gained its independence in 1946 from Great Britain, continuous development has been taking place in all aspects of life. However, the British heritage continues to appear in the Jordanian legal, economic, and educational systems and the English language is still used widely in the business and academic fields (Al-Shaikh, 2003). Moreover, Jordan's tradition and management systems are part of the Arab tradition and management systems. The Jordanian business environment is also part of the Arab business environment which includes politics, economy, and culture which are based on tribalism, Islam, the lack of democratic political systems, as well as some aspects of Westernization (Al-Rasheed, 2001; Dadfar, 1993). Today, Jordan, as well as other countries in the region, such as Israel and UAE, are leading the way amongst both emerging and developed markets (Middle East Monitor, 2007a). The country is experiencing huge growth in all sectors. Al-Shammari and Hussein (2008) argued that the second half of the 20<sup>th</sup> century experienced huge changes in the global business environment, and since the Middle East and Jordan in particular are not isolated from the global business environment, Jordan and its organizations, are exposed to many domestic and external risks.

There are a number of risks which Jordan and its organizations face. Firstly, political risk including terrorism (e.g. the terrorist attacks of 2005 that left many casualties inspired by Al-Qaeda terrorist group; the radical groups who started many violent protests in Jordan; Hamas attempts to operate from inside Jordan; the threat of Hezbollah alongside the Israeli-Lebanese border and the threat of terrorists who are likely to enter Jordan via Saudi Arabia's border -744 kilometres) (Levitt and Schenker, 2008; Library of Congress, 2006) (see appendix 6 for an illustration of the Jordanian borders). Secondly, economic risks, which include inflation, money laundering, market dynamics and the impacts of the

global economic crisis that began in 2008. Thirdly, social risk including social instability, poverty, and unemployment (Abumustafa, 2006; Miles, 2002). Fourthly, technological risks, which include mainly cyber space attacks which often result in the breakdown of systems and software; and fifthly, environmental risks, which include mainly lack of natural resources, water supplies<sup>8</sup>, and waste management (Middle East Monitor, 2007b; Business Middle East, 2006). This wide range of risks places limits on the liberalization of the business environment and influences investor confidence in Jordan.

In addition, the 1948 war in Palestine played a significant role in the country's politics, economy, and social homogeneity and raised many concerns. After this war, Jordan's population increased from 500,000 to 1.5 million as a result of the large number of Palestinian refugees coming in from the West Bank. Moreover, after the 1967 war, another 400,000 refugees fled into Jordan. Today, according to the UNRWA's figures, the number of Palestinian refugees registered with the U.N. agency in Jordan is over 1.7 million. Moreover, after the first war in Iraq in 1991, 300,000 Iraqis were forced to move to Jordan, increasing the total population by 10 percent, in addition to those Jordanians who were working in Iraq and other Arab Gulf countries who returned back. Similarly, more Iraqis entered Jordan following the second war in Iraq in 2003 (Chatelard, 2004). Today, it is estimated that more than one million Iraqis have entered Jordan as a result of these wars. The Gulf crisis had further impacts on Jordan's business environment. It resulted in an economic crisis and high liquidity problems, increased the unemployment rate and increased real estate values. Also, the increasing population required more resources in order to fulfil their increasing needs, especially the demand for fast moving consumer goods, such as medicine, clothing, food and water supplies which, in turn, disturbed the supply chain of many organizations.

In the last few years, globalization<sup>9</sup> accompanied with the telecommunication revolution has had major impacts on Jordanian businesses and organizations. Regester and Larkin (2005) argued that the forces of globalization and the internet are pushing societies and organizations from the "old world" to the "new world". As a result of globalization, new global business channels were formed, especially via the internet, and many Jordanian

---

<sup>8</sup> Jordan suffers from a lack of domestic water. It is one of the ten most water deprived countries in the world and is continuously seeking new water sources (CRS Report for Congress, 2007).

<sup>9</sup> Globalization can be seen from different angles. Economically, globalization is seen as a process by which business expands into markets internationally as a result of the increasing integration of global markets. Technologically, globalization can be seen as the process of internationalization of communications, media, and information delivery and distribution systems (Feigenbaum, 2002).

organizations started to employ new business platforms, such as e-business, e-commerce and e-learning. An example of e-business platforms is 'First Jordan', which was chosen by the international association of webmasters and designers as a high quality, creative and prestigious platform that has the potential to improve international business (First Jordan, 2008). Moreover, since 2001, Jordan has been developing rapidly in the field of IT and on-line services, especially in the education and business sectors. Jordan started using e-learning platforms in a number of universities, such as the University of Jordan and the Hashemite University. The use of IT has increased noticeably since then. For these reasons, computer crime has grown during the last few years, and many organizations that rely on IT have been exposed to a wide spectrum of cyber space risks (News and Events, 2009).

Jordanian organizations, like other Arab organizations, are characterized as being: small sized compared with Western organizations; centralized in terms of power; short-sighted in terms of training policies; and having fewer opportunities for female participation. In addition, many of these organizations are owned by families or a set of related stakeholders. This is likely to have many impacts, such as: sustaining old family traditions; reducing performance; discouraging personal training and development; and a job market which becomes highly competitive especially among educated people (Al-Rasheed, 2001).

In the Arab world in general, and in Jordan in particular, the family is considered to be the most significant unit of society. The extended family is also the centre of all social and political activity and maintains close relationships (Communicaid Group Ltd, 2009; Sabri, 2004; Agnala, 1998). Over 90% of businesses in the Arab world, including Jordan, are family owned (Jordan Directions, 2010). Family businesses are those organizations in which a family or extended families possess at least 51% of the shares, and in which family members hold senior management roles and responsibilities, as well as the most critical daily operations. Family owned businesses in Jordan consists of a number of SMEs and larger organizations which contribute greatly to the country's economy (Jordan Directions, 2010). Many of these family owned businesses are registered at the Amman Stock Exchange and are involved in a diverse range of businesses, such as shipping; travel and tourism; energy and mining; healthcare; trade and project development, IT and investments (Karen, 2009).

Jordanian organizations, including those which are family owned, are becoming increasingly international and are increasingly expanding their local, regional and global operations and market reach. As a result, they are more and more exposed to various types of political, cultural, financial, and technological risks, which are capable of causing harm to the employees, properties and corporate reputation, as well as business interruptions (Al-Khattab, 2006). Therefore, it became necessary for family owned businesses in Jordan to consider internal and external risks and proactively plan for continuity and future unexpected incidents. For instance, Malone (1989) argued that all firms, including family businesses, which plan for continuity are more likely to survive.

However, Jordan's government constantly attempts to reduce the impact of these risks. A recent study conducted by the 'Jordan Centre for Social Research' indicated that 58.4% of the population of Jordan is satisfied with the country's business progress (Middle East Monitor, 2007c). In 1999, the 'Amman Stock Exchange' was established with a view to "*establishing fair, transparent, efficient and liquid market for traded securities*" (Amman Stock Exchange, 2009). The Jordan stock market became one of the fastest growing and open markets to foreign investors in emerging markets. It also maintains an efficient flow of information to all its members (Gentzoglanis, 2007).

Moreover, Jordan today is experiencing rapid growth in its economy and aims to be a major player in the arena of international business. His Majesty King Abdullah the II of Jordan asserted in one of his speeches: "*we are embarking on a pretty adventurous set of reforms, political, social and economic*" (BBC, 2004). His Majesty the King hopes to reduce many of the risks and eliminate many of the obstacles that might influence the growth of business in Jordan and introduce a new set of reforms that may empower the development of business, reduce corruption and provide an educated and skilled labour force (Middle East Monitor, 2007a; Aldehayyat, 2006; Library of Congress, 2006). Moreover, since 1999, His Majesty King Abdullah the II has paid more attention to the information technology sector and has made a huge effort to build a high quality IT infrastructure by allowing many private organizations to enter the information sector supported by the Ministry of IT and Communications Technology, which was established in 2002 (MoICT, 2003).

Jordan's government also encourages foreign investment in order to disseminate the world's latest advances and continue providing the public with the latest services and products. For this reason, the Jordanian Investment Board was founded as a result of the government's awareness of the significant role of international business and foreign investment. The government also realized that enhancing local investment, creating new job opportunities and increasing national exports have a similar significance (Jordanian Investment Board, 2009). As a result, new firms were born, new markets were created and new international business relationships were created between Jordanian organizations and foreign organizations, and hence, many Jordanian businesses became driven by global standards regarding supply chain management and international business. In order to accommodate these developments, new Research and Development centres were founded to serve industrial sectors, such as the power and renewable energy which witnessed huge development recently (Asharq Al-Awsat Newspaper, 2009). An example of an R&D centre is the Renewable Energy Research Centre (Badran, 2001).

In addition, Jordan joined many free-trade agreements with the U.S. and the E.U. and joined many Arab free-trade and regional agreements with countries, such as Kuwait and KSA, as well as many international organizations, such as the International Chamber of Commerce, the ISO, and Interpol. The country's relations with many Arab countries, including the new elected Iraqi government, improved remarkably recently. Jordan also joined the U.S. and the European Union in their war against terrorism and terrorist groups (e.g. Jordan had a major role in helping U.S. forces in Iraq in killing Abu Musab al-Zarqawi, a terrorist and a member of the Al-Qaeda terrorist group). The war against terrorism is considered one of the major national priorities of the government with a big proportion of the country's treasury dedicated to anti-crime efforts (CRS Report for Congress, 2007).



### **5.6.1.3 Steps in designing the questionnaire**

Hair et al. (2003) recommended a five-stage approach for designing a research questionnaire. This approach was used in this research for the purpose of designing the research questionnaire. The following is a description of these stages and the corresponding activities that were carried out at each stage:

#### ***a) Initial considerations***

In the initial considerations phase, the target population, sample and potential respondents were clearly identified. In addition, in this phase, setting clear aims and objectives for the research is highly significant since it will determine the content of the questionnaire and the type of questions to be asked.

#### ***b) Clarification of concepts***

In this phase, three main steps were undertaken. Firstly, the research concepts that will be measured were identified. In this research, these concepts are: the use of BCM and the existence of an integrated framework for BCM and SP; the practice of BCM; the purpose of SP; the steps that are required in order to place BCM in the context of SP; the factors influencing the placing of BCM in the context of SP, including drivers and obstacles; and managers' views of BCM and the placing of BCM in the context of SP.

Secondly, question wording was considered carefully. The issue of question wording is significant as it will help to ensure that all respondents interpret all questions similarly (i.e. draw similar meaning from all questions) (Ghuri and Gronhaug, 2005). Easterby-Smith et al. (2008), Hair et al. (2003) and Black (1999) suggested that a number of points have to be borne in mind when wording the questions used in a research questionnaire. These include: only questions relevant to the research objectives were chosen; each question reflects only one idea; jargon and negatives were avoided; simple expressions and concise language were used; 'double-barrelled' questions were avoided; questions were created in formal and polite language; inappropriate language was avoided; and the use of ambiguous terms was also avoided.

Thirdly, at the end of this phase, an initial list of potential questions was prepared.

### *c) Typology of the questionnaire*

Hair et al. (2003) argued that the type of questions used and the way in which they are structured- which also reflect on the quality of the questionnaire and might influence the response rate- should be determined in this phase. Lee and Lings (2008) stated that there are two types of questions that can be used namely: open-ended and closed-ended.

Open-ended questions allow the respondents to answer using their own words and expressions. They are usually used when the researcher is not certain of some issues related to the research topic. In addition, they can provide rich information (Hair et al., 2003) noted. However, open-ended questions have some disadvantages, such as the lack of comparability and consistency across respondents, as well as being time-consuming when it comes to understanding responses (Lee and Lings, 2008; Hair et al., 2003). Closed-ended questions require respondents to choose a specific response from which a set of responses (i.e. predetermined answers) is provided. Close-ended questions have the advantage of making data collection and analysis easier. However, they are likely to be more difficult to design compared to open-ended questions.

Based on this discussion, and bearing in mind issues, such as the sample size, which consists of 274 organizations and time constraints, closed-ended questions were dominant in the questionnaire for the purpose of facilitating data collection and analysis. However, a number of open-ended questions was also used in the form of 'other, please specify' and 'please list'. The rationale for using mainly closed-ended questions in this questionnaire is threefold:

a) Open-ended questions are more appropriate in exploratory studies where the researcher is unaware of alternative answers (Hair et al., 2003). However, reviewing the literature of BCM and SP enabled the researcher to develop alternatives for the answers which supported the use of closed-ended questions.

b) Closed-ended questions are usually used in quantitative studies (Hair et al., 2003).

c) The researcher took in to consideration that the respondents may be busy. Therefore, using open-ended questions may be inconvenient and time-consuming and therefore, may reduce the response rate.

Using closed-ended questions requires assigning numbers for each variable. These numbers should indicate the features of the issue being measured. In addition, three measurement levels are available: nominal; ordinal and interval/ratio (Bryman and Cramer, 2001). These levels indicate the sophistication of the measurement being used. The nominal scale employs numbers as labels to categorize and identify people or objects. This scale was used in the questionnaire to obtain demographic data concerning the respondents and their organizations including: respondent's title; number of employees; type of industry sector; and firm's ownership. The ordinal scale is a ranking scale in which categories are ordered in terms of 'more' and 'less' of the concept of the questions (Bryman and Cramer, 2001). Therefore, this scale was used for the other questions. The interval/ratio scale employs numbers to rate objects or events in such a way that distances between the numbers used are equal. An interval/ratio scale provides the highest level of measurement. It has a unique origin of absolute zero point which allows the researcher to describe the differences between two subjects accurately in terms of a ratio (Hair et al., 2003). This scale was not used in this research since there are no entities that can be measured precisely and have a unique origin of absolute zero point. In addition, the research involves collecting information regarding BCM and SP which are likely to be perceived differently by people.

Five-point rating scales (Likert scale) were used in the questionnaire. The reason for choosing an odd number of categories in the scale is because the researcher felt that some respondents may have neutral feeling about some of the issues being examined. A five-point scale is a 'balanced scale' since the number of positive and negative categories is equal (Hair et al., 2003). For instance, 'Step 1' represents 'strongly disagree'; 'Step 2' represents 'disagree'; 'Step3' represents 'neutral'; 'Step 4' represents 'agree' and 'Step 5' is 'strongly agree'. The rationale for using a Likert scale is threefold:

- a) The researcher felt that measurement of the variables can be made more easily using a Likert scale. This issue was addressed by Hair et al. (2003) who noted that using Likert scale facilitates measurement of variables.
- b) Scales allow the researcher to measure the direction (e.g. yes/no scale) and intensity of the responses (e.g. 'strongly agree' or 'slightly agree') (Hair et al., 2003).
- c) Using Likert scale facilitates the use of different statistical tools for the purpose of data analysis and testing (Bryman and Cramer, 2001).

Moreover, Hair et al. (2003) suggested that in this phase decisions concerning the length, sections and layout of the questionnaire should be made. Five main sections were used in this research questionnaire. Section 1 is designed to obtain demographic data concerning respondents and their organizations. Section 2 is designed to examine the purpose of SP in Jordanian organizations. Section 3 is designed to examine the practice of BCM, as well as the steps that are required in order to place BCM in the context of SP. Section 4 is designed to examine the factors influencing the placing of BCM in the context of SP including obstacles and driving factors. Section 5 was designed to examine the comprehensiveness and integration of BCM, as well as managers' views. In addition, each of these sections has a clearly marked heading and instructions on how to answer its questions.

Furthermore, in this phase, a covering letter (see appendix 1) from the University of Huddersfield that aims to introduce the researcher and clarify the purpose of his research was provided to the researcher. The aim of this covering letter is to facilitate the data collection process and to motivate the respondents to cooperate with the researcher.

#### ***d) Pre-testing the questionnaire***

Ghuri and Gronhaug (2005) emphasized that the researcher should pre-test the questionnaire and consult advisors for the purpose of revising and correcting any possible mistakes before using the questionnaire for data collection. They recommended that the questionnaire should be pilot tested on real respondents -usually three to five respondents- in order to check whether or not issues, such as questionnaire wording, scaling, layout and the willingness of the respondents to answer sensitive questions meet the design expectations. Hair et al. (2003) also argued that pre-testing the questionnaire can be carried out more than once using different sets of respondents in order to obtain various opinions regarding its design. Therefore, the questionnaire used in this research was pre-tested on three stages using different respondent groups.

The first draft of the questionnaire was distributed amongst a number of researchers undertaking research in various business areas at the University of Huddersfield Business School in order to have their feedback on the design and content of the questionnaire. Some of their comments were constructive and were taken into consideration. First, since the majority of those researchers were undertaking research in Arab countries and some had already conducted their empirical research, they recommended that the questionnaire

should be translated carefully in order to eliminate any possible misunderstanding. Second, they recommended that the researcher should use simple language since data collection in the Arab world is known to be a difficult task and therefore it needs simple language in order to obtain an adequate response rate. Third, they recommended that the questionnaire must not include many open-ended questions, since respondents in Arab countries usually tend to ignore such questions.

In the second stage, the second draft of the questionnaire was distributed amongst professional academic staff and senior lecturers who have academic experience in topics related to or similar to the research topic at the University of Huddersfield in order to have their feedback on the design and content of the questionnaire. Those people were: a) the Head of the Department of Strategy and Marketing at the University of Huddersfield Business School, who has extensive academic experience of issues related to this research such as Strategic Planning; b) MSc. Risk, Disaster and Environmental Management Course Leader, who has rich academic and practical experience in Risk, Disaster and Crises Management; c) University of Huddersfield Secretary, who has a Masters Degree in Business Administration and who has a extensive practical experience in business administration; and d) a lecturer in Project Management and e-business, who also had been the director of “ITmanager.co.uk Ltd”. They provided useful feedback and recommendations to the questionnaire, of which, some were taken into consideration and consequently amendments were made.

First, it was recommended that in section 3, part 5, the reference to the marketing and public relations department should be split into two, based on the fact that some organizations have two separate departments, marketing, as well as public relations. Second, in the same part, it was recommended that the scale should include the option “department does not exist” since this would provide an opportunity for the respondents to state that a particular department did not exist in their organization. Third, in the section concerning managers’ views, it was recommended that a fourth statement be added, which originally, was not included in order to check whether or not BCM was considered as an integral part of the organization’s approach to risk. Fourth, it was recommended to provide the last section (Ending notes), in order to provide the respondents with the opportunity to add any further comments which they thought would be useful to the study.

In the third stage, the final draft of the questionnaire was distributed amongst ten key personnel from ten organizations in Jordan. Eight of the respondents reported that the questionnaire was comprehensive and well-structured and needed no more modification. Two respondents, however, drew the researcher's attention to some points, and therefore, a few amendments were made in response to their feedback. First, it was recommended to include a question in the first section that aimed to describe the level of risk associated with the organization's type of business. Second, it was recommended to include the statement "concerns about social risk" in section 4, part 1, based on the fact that the Arab world, and the Middle East in particular, suffers regular social unrest, which might be an influential factor in the organization's decision on whether or not to integrate BCM with SP.

***e) Administering the questionnaire***

The final stage in questionnaire design is administering the questionnaire. There are five ways that can be used to administer the questionnaire: by mail; by fax; in-person; over the telephone or electronically using the internet. However, and as discussed in section 5.6.1, the researcher felt that interviewer-administered questionnaire (i.e. in-person) was likely to be the most appropriate method for administering the questionnaire in the Jordanian context.

#### **5.6.1.4 The translation of the questionnaire**

The questionnaire was originally developed in English. However, the researcher decided to provide an Arabic translation in order to make it clear to the respondents in the context of Jordan, as Al-Khattab (2006), Aldehayyat (2006), Altarawneh (2005) and Akroush (2003) had done in earlier business research in Jordan. Moreover, Mostafa et al. (2004), who focused on crisis management and long-term strategy in Egypt also provided Arabic translation to the questionnaire used in their study in order to make it clear to the respondents.

Although Arabic is the native language in Jordan, English is also an official language and is widely used in many sectors, such as business, industry, and education. Therefore, the researcher believed that presenting the questionnaire as a two-language document might increase the response rate. Moreover, the final layout of the questionnaire was designed so that there were the same response boxes for the two languages. This is in line with previous studies conducted in Jordan which used similar questionnaire design, such as Al-Khattab (2006).

Ghuri and Gronhaug (2005) argued that it is necessary when the questionnaire is developed in two languages for all respondents to interpret all questions identically in both languages. Therefore, the questionnaire should be translated accurately as a poorly translated questionnaire will reduce the response rate and may provide misleading data. Bradley (1994) introduced two approaches to questionnaire translation; namely, committee translation and back translation. Committee translation is where two or more independent translators produce their own translations and then meet to discuss and compare these translations in order to produce the final version of the translation. Back translation is where the questionnaire is translated from the original language by one or more specialized translators; then, one or more translators who have not seen the questionnaire in its original language (English) translate the new translation (Arabic) back to English (original language). Next, all back translations are compared with the original in order to identify and correct any possible inaccuracies and a final English version is produced. This final version is then translated in to Arabic. This process is repeated until the researcher feels no more back-translations are required and that the translated questionnaire is identical in meaning to the original.

Back-translation is time-consuming, requires too many people to be involved in the process of translation, and is costly to a researcher who has limited financial resources. Therefore, a committee translation was used which also goes in line with earlier studies conducted in Jordan, such as Al-Khattab (2006) and Akroush (2003). The methodology of translation is now described. The questionnaire was originally developed in English by the researcher himself based on extensive review and understanding of the literature and bearing in mind the research aim and objectives.

First the questionnaire was translated by the researcher himself; since the researcher's native language is Arabic and his entire academic background is in English which indicates a reasonable and satisfactory level in using both languages. Simultaneously, a copy of the English version of the questionnaire was sent to the researcher's wife for translation. Her native language is Arabic and she also has an academic degree in English language, including translation, from the University of Jordan. Another copy of the English version of the questionnaire was also sent to "Abu Ghazaleh for Authorized Translation Office"<sup>10</sup> for translation. Eventually, the three independent translations were compared and a final translation was then made by the researcher's wife and the translation office. The final translation and the English version were then sent again for the translation office in order to recheck the Arabic translation with respect to the English version. A final check was made to the Arabic language wording and grammar in order to make sure that any possible mistakes in the translation were eliminated. At the end, the Arabic and English versions were combined in one two-language version.

In order to make sure that respondents would interpret similarly the meanings of the key words which were used in the questionnaire and in a way which would help to achieve the aims and objectives of the research, particular attention was given to the translation of key words, including: risk; disaster; crisis; continuity; and strategic. Despite the fact that these terms have been defined in a variety of ways in the literature (see sections 2.2, 2.3, and 3.2), they have been translated to Arabic using simple and clear language in order to help to achieve the research objectives in the context of the Jordanian business environment. This was done, as mentioned above, by allowing a professional and

---

<sup>10</sup> Abu Ghazaleh for Authorized Translation Office (AGATO) is an authorized translation office in Amman-Jordan that has a long experience in document translation in many languages including Arabic and English. Tel: 00962 6 4636873 Fax: 00962 6 4651261 E-mail: [husamabughazaleh1@yahoo.com](mailto:husamabughazaleh1@yahoo.com). Website: [www.agto.biz](http://www.agto.biz).



authorized translation agency (AGATO) to translate the questionnaire independently and chose the most appropriate Arabic terms for the purpose of translating key words.

An equivalent Arabic word for 'risk' is 'khatar'. This word, which was used in the questionnaire, and which has the closest meaning to the word 'risk', is used exclusively in Arabic to describe a situation in which there is a threat or danger which is likely to have unfavourable impacts on the lives of people, property and business. This serves the purpose of the research since the definition of 'risk', which was adopted for the purpose of this research was, as discussed in section 2.2, "*the possibility of an outcome that is less favourable than expected outcome*". The word 'disaster' was translated to an equivalent Arabic word 'karetha', which means an occurrence of a destructive incident which has the potential to impact people and organizations. This serves the purpose of the research since, as was discussed in section 2.2, the word 'disaster' was defined as an incident that affects people, societies and organizations and causes destruction. The word 'crisis' was translated to an equivalent Arabic word 'azamah', which means an occurrence of an abnormal situation which has the potential to negatively influence people and cause distress. This serves the purpose of the research since, as was discussed in section 2.2, the word 'crisis' was defined as an abnormal situation which may be associated with an unfamiliar and high level of risk that might impact people, societies and organizations. The word 'continuity' was translated to an equivalent Arabic word 'istimrariah', which means continuity in the short and long terms. This serves the purpose of this research since, as was discussed in section 2.3, BCM is about ensuring continuity of operations at all times. The word 'strategic' was also translated to an equivalent Arabic word 'istrateegi', which has exactly the same meaning in English.

### **5.6.1.5 Questionnaire contents**

The questionnaire used in this research was developed based on the literature review which was undertaken in Chapters Two, Three, and Four. The questionnaire (see appendix 3) is ten pages in length and includes five main sections. Each of these sections is developed in order to obtain specific data that contributes to the achievement of the research objectives.

#### ***Section 1***

In section one, data regarding the characteristics of the respondents and their organizations are required. These include: respondent titles; number of employees; number of years the organization has been involved in SP; age of the organization; industry sector (type of business); ownership of the organization; and the level of risk associated with the organization's type of business. Organization and respondent characteristics have been found to be significant in research of BCM and SP (e.g. Pitt and Goyal, 2004; Malone, 1989).

#### ***Section 2***

The literature review in section 3.2 showed that SP is significant for every organization and is needed in order to help to achieve various organizational purposes, such as: achieving sustainable competitive advantage; motivating innovation and creation; implementing productive action plans; and ensuring ongoing growth and success of the organization. However, during the late 1970s and 1980s, SP experienced a decline in its popularity and influence and faced criticism in terms of its effectiveness as it failed to deliver many of its expected outcomes. SP during that time focused mainly on building organizational offensive capabilities and competition strategies. Less attention was paid to issues related to business continuity, organizational risk, disasters and crises, and the development of defensive corporate capabilities. This was described as strategic planning vulnerability and was discussed in section 3.2.1. In section 3.3, the rationale for placing BCM in the context of SP was discussed. It highlighted the necessity for strategic planning to continually change with respect to the changes of the business environment in order to maintain a balance between the business and its environment. It also focused on the necessity of addressing BCM issues in SP in order to help to achieve further organizational purposes.

In section two of the questionnaire, data concerning the purpose of SP is requested. This information will be used to achieve the third objective of this research in examining the purpose of SP in Jordanian organizations in order to find out whether or not SP in Jordanian organizations is important for achieving organizational purposes, such as: achieving sustainable competitive advantage; motivating innovation and creation; implementing productive action plans; ensuring ongoing growth and success, as well as achieving BCM purposes including: identifying various types of risks facing the organization; scanning the business environment; ensuring the existence of proactive business continuity planning and ensuring effective recovery after a disaster or a crisis.

### ***Section 3***

The literature review in sections 2.3.1 and 4.4 showed that it is necessary to study the practices of BCM in order to develop a better understanding of this process and what it encompasses. A number of studies focused on the practice of BCM. Based on a review of such studies, it became possible to identify the main aspects related to the practice of BCM. These aspects were: the person or groups conducting BCM; the duration for which BCM has been practised; the maturity of BCM; the responsibility for BCM; the participants involved in BCM; the comprehensiveness of BCM; and the effectiveness of the BCM approach.

Regarding the person or groups conducting BCM, the literature review showed in section 4.4a that BCM can be conducted using internal employees; using external consultants; or by using both. Therefore, in section 3, part 1 of the questionnaire, four options were provided regarding the person or groups conducting BCM: the organization conducts BCM internally using internal employees only; the organization conducts BCM externally using external consultants only; the organization conducts BCM internally and externally; and the organization does not conduct BCM at all.

Regarding the duration for which BCM has been practised; the literature review showed in section 4.4b that it is significant to investigate the duration for which BCM has been practised as this helps to understand new trends that show growth in the adoption of BCM in recent years. It can also help as an indicator of the level of maturity and comprehensiveness of BCM. Therefore, in section 3, part 2 of the questionnaire, three options were provided to investigate the duration for which BCM has been practised in Jordanian organizations: less than 1 year; 1 to 5 years; and greater than 5 years.

Regarding the level of maturity of BCM, the literature review showed in section 4.4c that four levels of maturity can be identified based on orientation of activity (i.e. whether the continuity approach is operational or functional) and scope of activity (i.e. whether business continuity is designed to help the organization to cope with technical disasters only or with socio-technical disasters and crises). This was also illustrated in figure 4.2. Therefore, in section 3, part 3 of the questionnaire four options were provided in order to investigate the level of maturity of BCM in Jordanian organizations: BCM covers just the technical operational aspects of the organization; BCM covers technical interruptions across the organization; BCM covers socio-technical interruptions across the organization; and BCM can be termed 'strategic oriented' in your organization.

Regarding the responsibility for BCM, a vast majority of the literature reviewed in sections 2.3.1a and 4.4d indicated that BCM should be one of the responsibilities of senior management. Few studies showed that in some organizations other parties can sometimes take responsibility for BCM. Therefore, in section 3, part 4 of the questionnaire five options were provided in order to investigate who takes responsibility for BCM in Jordanian organizations: senior management; board of directors; business continuity management team; operational staff; and operational risk department.

The literature review showed in sections 3.3.1 and 4.4e that BCM should be considered as an enterprise-wide process that requires the involvement of various business areas within the organization. BCM should also be based on a cross-functional effort in order to keep the continuity plans updated and maintained. Therefore, in section 3, part 5 of the questionnaire, respondents were asked to identify the level of participation of different business areas in BCM on a scale were 1 stood for "not a participant" to 5 "full participant". This section included the following departments: IT department; finance department; risk and business continuity department; security department; human resources department; health and safety department; public relations department; marketing department; and another option 'other, please specify' was provided in case other departments exist.

The literature review showed in section 4.4f that the more BCM is concerned with the unfavourable impacts of disasters and crises on all elements of an organization, the more comprehensive it will be. The literature also showed that in order to create business resilience, all elements of the organization have to be protected against risk, disasters and

crises. Therefore, in section 3, part 6 of the questionnaire, respondents were asked on a scale rated from 1 = “not concerned” to 5 = “extremely concerned” to indicate how concerned were they about the unfavourable impacts of disasters and crises on different elements of their organizations including: IT systems; employees; processes; infrastructure; physical assets (premises and facilities); customers; suppliers and third parties; and corporate reputation.

The literature review showed in sections 2.3.1 and 4.4g that the effectiveness of the BCM approach adopted relies on performing a number of activities and on the extent to which these activities facilitate embedding BCM in the culture of the organization. These activities include: project planning; creating teams and assigning roles and responsibilities; performing risk analysis processes; performing business impact analysis; developing backup and data recovery strategies; developing a disaster recovery plan; developing a business continuity plan; periodic testing of the developed plans; periodic maintenance of the developed plans; periodic updating of the developed plans and periodic training of the developed plans. Therefore, in section 3, part 7 of the questionnaire, respondents were asked on a scale rating from 1 = “not important” to 5 = “extremely important” to describe how important was each of the abovementioned activities to the BCM approach adopted in their organizations.

The information obtained in section 3 is used to achieve the first, the second, and the fourth objective, which are: investigating the use of BCM and the existence of an integrated framework for BCM and SP; examining the practice of BCM; and examining a number of steps that are required in order to place BCM in the context of SP.

#### ***Section 4***

The literature review in sections 3.4 and 4.7 showed that organizations are described as organic since they are inseparable part of their business environments and are not immune from risks, disasters, and crises arising from these environments. The need for placing BCM in the context of SP seems to be a result of many organizational concerns regarding the increased level of risk, disasters, and crises arising from the internal and external business environments. The literature review identified various factors that are likely to influence an organization’s decision on whether or not to place BCM in the context of SP, of which some are likely to obstruct the placing of BCM in the context of SP and some others may encourage this process. Among the factors that were identified in the literature

were: senior management awareness; availability of human skills; concerns about technological risk; concerns about economic risk; concerns about political risk (e.g. terrorism); concerns about natural risk; compliance to legal acts (e.g. civil act, BS 25999, Basel II); concerns about the forces of globalization; concerns about internal organizational risks; the need to prepare for unplanned disasters; the need to recover effectively from disasters; concerns about biological risk (e.g. avian flu); compliance to corporate governance; availability of organizational infrastructure; availability of budgets; availability of time; concerns about maintaining customers; and concerns about social risk.

In order to identify which of these factors were influential in the Jordanian context, respondents were asked in section 4, part 1 of the questionnaire to describe on a scale rating from 1 = “not influential” to 5 = “extremely influential” how influential these factors were on their organizations’ decision whether or not to place BCM in the context of SP. Moreover, in order to identify which of these factors discouraged and encouraged mostly the placing of BCM in the context of SP, respondents were asked to list these factors in sections 4.2 and 4.3.

The data obtained from section 4 will be used to achieve the fifth objective of this research; which is examining the factors that are likely to drive (i.e. encourage) or obstruct (i.e. discourage) placing BCM in the context of SP in Jordanian organizations.

### ***Section 5***

Section 5, parts 1, 2, and 3, of the questionnaire were designed in order to investigate the situation regarding BCM in those organizations that did not practise BCM in Jordan. Similar questions were used by Pitt and Goyal (2004) in their study of business continuity planning. Lastly, section 5, part 4 of the research questionnaire was designed in order to report managers’ views regarding BCM and the integration of BCM with SP. The statements used in this section were deduced from the literature (e.g. Quinn, 2008; Herbane et al., 2004; and Cerullo and Cerullo, 2004) in order to develop an understanding about the ways managers perceive BCM and the placing of BCM in the context of SP. Therefore, on a scale rating from 1 = ‘strongly disagree’ to 5 = ‘strongly agree’, respondents were asked to reflect their views. This will help to achieve the sixth objective of the research in reporting managers’ views of BCM and the placing of BCM in the context of SP.

#### **5.6.1.6 Response rate**

Prior to starting the field work, the researcher visited Amman Stock Exchange (ASE), and met its CEO Mr. Samir Jaradat<sup>11</sup> who has a long experience with Jordanian students who study abroad and undertake research in the context of Jordan. Mr. Jaradat's experience was exceptionally helpful and supportive in two ways. First, Mr. Jaradat provided the researcher with a list that contains contact details of all the organizations registered with the Amman Stock Exchange up-to-date 10-Feb-2009 that included telephone and fax numbers, email addresses and websites; and location details. Second, Mr. Jaradat recommended when the sample is large (e.g. contains more than 100 organizations), it would be helpful if the researcher provides an introductory letter written in the Arabic language and send it to all the potential respondents by email prior to visiting them in person for the purpose of data collection. The aim of this letter was to prepare and motivate the respondents to help the researcher in his data collection process.

Therefore, the researcher prepared an introductory letter in the Arabic language (see appendix 2) which aimed to introduce the researcher and his research, and then sent it by email for the attention of the general managers of all the organizations listed on the ASE, with a copy of the research questionnaire attached. After sending this letter, the researcher started to contact each of those organizations by phone in order to check whether or not they were willing to help the researcher in completing the questionnaire and in order to book an appointment with the general manager if possible (in case the general manager was not available, the researcher booked an appointment with other key personnel in the organization who were responsible for BCM or SP). This approach was also recommended by Saunders et al. (2007).

Then a list of those organizations that agreed to help the researcher was prepared. The final number of those organizations was 110. Next, the researcher carried out his empirical work during the period from 1<sup>st</sup> February 2009 to 1<sup>st</sup> May 2009 by visiting every organization in-person.

A pre-questionnaire session took place before conducting the questionnaire with the respondents. On average, pre-questionnaire sessions lasted 15 minutes each. In each pre-

---

<sup>11</sup> Mr. Samir Jaradat is the CEO of Amman Stock Exchange and the Securities Depository Centre, Amman-Jordan. Tel: 00962 6 5672550, Fax: 00962 6 5672622, P.O.Box: 212465 Amman 11121 Jordan, Email: [ceo@sdcc.com.jo](mailto:ceo@sdcc.com.jo), website: [www.sdcc.com.jo](http://www.sdcc.com.jo).

questionnaire session, the researcher introduced himself to the respondent and presented his University Identification card, as well as a covering letter provided by the University of Huddersfield Business School (see appendix 1) in order to build trust and ensure that the questionnaire would be dealt with confidentially and only for the purpose of the study. Next, a brief discussion regarding the research aims and objectives, as well as the questionnaire contents took place in order to prepare the respondent to provide the information required and to increase his/her awareness about the research topic. Next, a general discussion regarding key research terms, such as organizational risk, risk management, future planning, disasters, crises, business continuity management, strategic planning, as well as the significance of developing a strategic framework for BCM, especially in highly dynamic business environments and emerging markets, such as Jordan, took place. The researcher felt that this discussion was beneficial, since at the time data was collected, Jordan was affected significantly by the global financial crisis of 2008, and therefore, respondents were keen to discuss their own experiences in dealing with it, which was to a certain extent reflected in their responses. In addition, in the pre-questionnaire session, respondents were offered the chance to receive a copy of the findings of the study once the empirical research had been completed. This aimed to encourage the respondents to complete the questionnaire and provide the information required. A vast majority of the respondents showed interest in receiving a copy of the research findings. Next, the questionnaire was administered.

At the end, the researcher was able to collect 110 questionnaires from 110 different organizations. This number represents 40.1% of the entire population. 107 out of the 110 questionnaires were fully completed; however, three were partially completed. The other organizations listed in the ASE, however, despite the researcher's many attempts to motivate them to be involved in the study, did not show interest in the study and apologized to the researcher for not being able to complete the questionnaire due to a number of different reasons. Black (1999) noted that it is necessary to identify such reasons. The majority of the non-responding organizations reported the following reasons for not responding: a) General Manager or other key personnel were not available or busy; b) the information required was sensitive and could not be declared to any external party; or c) the firm's policy did not allow any of its employees, including the general manager, to give out any information.



In order to calculate exact response rates, Saunders et al. (2000) introduced the following formula:

$$\text{Response rate} = \text{“} \frac{\text{total number of responses}}{\text{total number in sample} - (\text{ineligible} + \text{unreachable})} \text{”}$$

**NB:** Ineligible respondents are those respondents who do not meet the research requirements. Unreachable respondents are those respondents whose contacts are not available; therefore, they will not be represented in the data collection.

Therefore, the response rate for this study was:

$$110 / 274 - (0 + 0) = \mathbf{40.1 \%}.$$

### **5.6.2 Semi-structured interviews**

Knight (2002) argued that the more data sources are investigated and the greater the number of data collection methods used, the more accurate and certain the research findings will be. In addition, Bryman and Bell (2007) and Sekaran (2003) argued that in some studies, qualitative data is used to corroborate quantitative findings. Using qualitative data following quantitative research helps to support and probe quantitative findings. One way of achieving this is by conducting interviews after questionnaires. This method was recommended by Wass and Wells (1994) who argued that interviews are usually employed to complement other data sources. This method was used in earlier studies undertaken in the context of Jordan, such as those of Al-Khattab (2006) and Alnsour (2006) which used interviews after questionnaires to probe and support answers and gain a broader perspective for a better understanding of the research problem. Moreover, interviews were used to validate questionnaires and to evaluate the ability of outcome questionnaires to measure research variables in Paterson and Britten (2000).

Knight (2002) and Saunders et al. (2000) classified interviews into three types: structured; semi-structured and unstructured. While structured interviews are highly formalized and structured, unstructured interviews are informal and are based on unstructured conversations between the researcher and the respondent/s. Like Knight (2002) and Saunders et al. (2000), Ratcliffe (2002) argued that semi-structured interviews provide a “halfway-house” between inflexible structured interviews and more subjective unstructured interviews. They also noted that in semi-structured interviews, the researcher has a list of questions and themes which will be used to probe and support the findings of the questionnaires (Saunders et al., 2000).

In this research, a list of five questions was prepared (see appendix 4) for the interview process which was carried out after conducting the questionnaire. Before conducting each interview, the researcher asked permission to tape-record the interview since tape-recording allows the researcher to concentrate on questioning and listening; ensures no data is lost; and allows using direct quotes (Saunders et al., 2000). However, only one respondent gave permission for the researcher to tape-record the interview. The other nine respondents did not since they wanted to stay anonymous. In the cases where tape-record was not permissible, the recording of the interview was made by note-taking.

### 5.6.2.1 Sample

Three issues of concern are discussed in this section: sampling frame; sample size; and potential respondents. Sampling frame, according to Hussey and Hussey (1997), is “*a list or other record of the population from which all the sampling units are drawn*”. In this research, the researcher decided to draw the sample of the interviews from the respondents to the questionnaire and from those organizations that had BCM placed in the context of SP (N = 57). The rationale for this sampling frame is threefold:

- a) The semi-structured interviews were conducted exclusively to support and probe the questionnaire findings. Therefore, there was no point in interviewing those who did not respond to the questionnaire.
- b) The research aims to develop an understanding of BCM and the significance of placing BCM in the context of SP. Therefore, conducting interviews in those organizations that did not practise BCM at all and in those where BCM was not placed in the context of SP will not help to achieve the research aim.
- c) Conducting semi-structured interviews with respondents from organizations that have BCM placed in the context of SP (i.e. those that have BCM integrated with SP in one framework) (N=57) will help to make use of their experience and knowledge which, in turn, helps to achieve the research objectives.

The second issue of concern is the sample size. Before conducting the interviews, the researcher contacted all those organizations that completed the questionnaire and that had BCM placed in the context of SP (N = 57) by telephone in order to book appointments for the interviews. Finally, after many attempts to motivate respondents to participate in the interviews, ten respondents from ten organizations agreed to be interviewed (see table 5.2). The other 47 were not interested in taking part in the interviews.

**Table (5.2):** Number of responding organizations in terms of sector.

<b>Sector</b>	<b>No.</b>
Banking	1
Insurance	1
Industrial	3
Services	5

The question of whether or not a ten-sample size is enough is now discussed. Lee and Lings (2008) argued that qualitative work usually uses small samples compared with quantitative work which is usually based on large samples. For example, when studying a complex theory, the researcher requires at least 20 interviews in order to obtain enough qualitative information and analyze it qualitatively. However, since this research is based mainly on a quantitative approach- which is a common approach in descriptive studies, as Hair et al. (2003) argued- less than 20 interviews are required. In addition, the use of a ten-sample size is legitimate since the semi-structured interviews were used to support and probe questionnaire findings, not for the purpose of analyzing qualitative data. Therefore, there was no need to use 20 interviews, as Lee and Lings (2008) argued. Also, a ten-sample size saves time and reduces costs which usually are considered major constraints in many research projects since the researcher had limited time and financial resources (Sekaran, 2003). Moreover, a ten to fifteen-sample size falls in line with a number of earlier studies conducted in Jordan and which used semi-structured interviews to support and probe questionnaire findings, such as Al-Khattab (2006) and Akroush (2003).

The third area of concern in this section is the selection of the respondents. Since the semi-structured interviews were designed fundamentally to support and probe the quantitative findings, the researcher decided to conduct the semi-structured interviews with the same people who had completed the questionnaire in order to maintain a level of consistency of responses.

### **5.6.3 Validity and reliability**

Sekaran (2003) noted that the goodness of measures is established through measures of validity and reliability. These two criteria are discussed next.

#### **5.6.3.1 The validity of data collection method**

In positivism, the trustworthiness of the research instrument which is used to collect data is significant (Knight, 2002); that is whether or not the data collection method/s measures what it is intended to measure, which requires assessing this method/s (Saunders et al., 2000). Knight (2002) and Black (1999) argued that there are different facets of validity. However, those which usually concern many researchers are: content validity and construct validity.

Content validity is based on the assumption that there is a clear specification of the issue being studied and that the instrument used in the research (i.e. the questionnaire in this research) has the potential to provide adequate coverage of the investigative question guiding the study (Knight, 2002). Construct validity is concerned with how well a measure represents a concept i.e. if the numerical representation in a quantitative scale used in the questionnaire has the potential to accurately represent levels of that concept (Black, 1999).

According to Knight (2002), in order to achieve the requirements of validity, a number of procedures were carried out in this research. Firstly, the researcher has undertaken an extensive review of literature which involved reviewing and investigating multiple sources of information in order to identify and discuss all the aspects related to the research issue. The researcher has also used two data collection methods (i.e. a questionnaire as a major method for quantitative data collection and semi-structured interviews as a minor method to support quantitative findings). Secondly, the questionnaire used in this research was piloted and pre-tested before it was used for data collection. Piloting indicates whether or not the research design and the questionnaire can achieve what they were expected to achieve. Such procedures have the potential to improve validity.

The other side of validity, which is a concern in research design, is external validity, also known as “*generalisability*” (Saunders et al., 2000). Generalisability refers to the extent to which the research findings can be applied to other research settings. Bryman and Cramer (2001) argued that no researcher can be completely sure whether or not the characteristics revealed from the sample can be applied exactly to the population from which the sample was taken. However, a degree of confidence in the research findings can be guaranteed if the sample is representative. A representative sample, according to Ghauri and Gronhaug (2005), is where the sample could- to some extent- be considered valid for the entire population. Therefore, in this research, and in order to ensure an acceptable level of confidence in the findings, the questionnaire targeted the entire population which consisted of the entire 274 organizations registered at the ASE.

#### **5.6.3.2 The reliability of data collection method**

As defined by McKinnon (1988), reliability is concerned with the issue of whether or not the researcher is collecting reliable data using a data collection instrument. The reliability of a data collection instrument relates to the consistency of this instrument (Bryman and Cramer, 2001). Consistency within the data collection instrument is a measure of uniformity of the responses to questions that make up an operational definition (Black, 1999). Black (1999) also argued that lack of consistent answers will produce error in the measurement. Sekaran (2003) added that reliability of an instrument is an indication of both consistency and stability. Stability refers to the ability of the instrument to obtain the same results if it is applied to the same sample on different occasions.

In relation to the data collection methods used in this research (i.e. interviewer-administered questionnaires and semi-structured interviews), Saunders et al. (2000) and McKinnon (1988) listed a number of factors that are likely to threaten reliability including: subject error; subject bias; observer –caused effects and observer bias. There follows a discussion of each factor and the procedures carried out in this research to counteract these threats to reliability.

Firstly, subject error refers to the tendency of the respondents to provide responses that differ from the true facts. This is most likely to happen if the researcher does not choose an appropriate time during the day to collect data (Saunders et al., 2000). As an illustration, if the data is collected early at the beginning of a working day, respondents may be keen to respond. Whereas, collecting data at the end of a working day is likely to

drive respondents to provide irrational responses because they suffer fatigue resulting from work load which subsequently will affect the reliability of the data collected. To overcome this threat, the researcher tried to chose 'neutral' times for data collection when respondents were neutral in their feelings (e.g. during midday) when this was possible to make.

Secondly, subject bias refers to the tendency of respondents to provide responses that differ from the true facts because they are obliged to do so or due to the firm's policy which restricts publishing sensitive or confidential information (Saunders et al., 2000). To overcome this threat, the researcher assured the respondents that both data collected from the questionnaire and the interviews would be analysed with complete confidentiality and anonymity and would not be used for other purposes than this research.

Thirdly, observer-caused effects are those effects which result from the observer's (i.e. the researcher's) presence in the phenomenon under study and which are likely to influence the respondent's behaviour, conversation, and data he/she provides. This type of threat occurs when the role attributed to the researcher by the respondents is such that it drives them to change their normal behaviour (McKinnon, 1988). To overcome this threat, questionnaire and interviews were preceded by opening statements and clarification of the role of the researcher in order to build confidence and trust between the researcher and the respondents (Saunders et al., 2000).

Finally, observer bias is defined as the "*tendency to observe the phenomenon in a manner that differs from the true observation in some consistent fashion*" (Simon and Burstein, 1985). This is likely to occur when the researcher sees, hears or understands and then records the respondents' answers based on his/her own interpretation and perception of the phenomenon. In order to overcome this reliability threat, the researcher attempted to record the answers of the respondents by note-taking their exact answers during the interviews (McKinnon, 1988). Accordingly, the benefit of note-taking the interviews is that the factual data and the researcher perception and interpretation are not mixed. This is likely to reduce the threat of observer bias on the data collection method reliability.

Admittedly, even if the aforementioned procedures were carried out in order to counteract the influence of subject error, subject bias, observer-caused effects and observer bias on the requirements of reliability, absolute reliability cannot be guaranteed. According to

Abdel Fattah (2008), reliability can be measured using statistical packages such as SPSS by measuring the reliability coefficient (also known as Cronbach's Alpha). Cronbach's Alpha takes a value ranging between (0 – 1). The higher the value, the more reliable are the instrument and the questions used in the questionnaire. The author also argued that Cronbach's Alpha can be measured for the entire scales used in the questionnaire. In this research, and as shown in table 5.3, the value of Cronbach's Alpha was 0.920 for all 58 scaled items included in the questionnaire. This indicates that reliability was high. Using Cronbach's Alpha for measuring reliability was also used by Mostafa et al. (2004) who have undertaken research in the field of crisis management and long term strategy in Egypt and had a value of 0.897 for Cronbach's Alpha.

**Table (5.3):** Reliability statistics using Cronbach's Alpha.

<b>Cronbach's Alpha</b>	<b>N of Items</b>
<b>.920</b>	<b>58</b>



## **5.7 Statistical methods used for data analysis**

SPSS v.15 was used for data analysis in this research. Using SPSS allows the scoring and analysis of quantitative data quickly using various statistical tools, which in turn saves time and helps to perform complicated statistical techniques more easily (Bryman and Cramer, 2001). A number of statistical tools and tests were used in order to achieve the objectives of this research.

### **5.7.1 Descriptive statistics**

Descriptive statistics, according to Bryman and Cramer (2001) and Stephen and Hornby (1995), enable the researcher to work out a number of statistical procedures, such as frequency distributions, frequency tables, percentages, minimum, maximum, sum and means, as well as graphical presentations of frequencies and values in order to describe and/or compare variables numerically. This type of statistic is usually used at the beginning of the analysis phase in order to provide preliminary analysis of the data and guide the rest of the data analysis process (Cooper and Schindler, 2006).

### **5.7.2 Inferential statistics**

Inferential statistics allow the researcher to use sample statistics to make statements about the entire population (Black, 1999; Stephen and Hornby, 1995). They are classified into two categories; parametric and non-parametric (Sekaran, 2003).

Bryman and Cramer (2001) and Black (1999) argued that the decision concerning whether to choose parametric or non-parametric statistics is still unresolved. Parametric tests are usually used when the scale of measurement used is interval/ratio and the distribution of the population scores is normal. However, Pallant (2007) and Black (1999) noted that there will be times when these conditions are not met and the data collected does not meet the assumptions on which parametric tests are based. In such cases, the use of non-parametric tests is more appropriate since for every parametric test, there is a non-parametric alternative. Moreover, the choice between parametric and non-parametric tests depends on the research objectives. In this research, non-parametric statistics were used for the following reasons:

a) Since all the variables in this research are nominal and ordinal, parametric tests cannot be used since they require at least interval/ratio type of data (Bryman and Cramer, 2001).

b) Pallant (2007) argued that it is common in social research that most of the data collected is found to be highly skewed and fall at the high end of a scale. A check for the data collected in this research shows that most of the scores fall at the high end of the scales used, which indicates that they are not normally distributed. Therefore, since the normality condition is violated, parametric tests cannot be used.

c) The output of the Kolmogorov-Smirnov test and the (Q-Q chart plots) for all the questions of this research questionnaire also show a significant difference between the distribution of the variables and a normal distribution. This means that the normality condition is violated. Therefore, parametric tests cannot be used.

d) According to Bryman and Cramer (2001), non-parametric tests can be used when dealing with psychological and sociological variables, such as practices, views, and behaviours which are usually nominal or ordinal in nature. This is consistent with the research objectives.

The following non-parametric tests are used in this research:

#### **a) Spearman's rank correlation**

Spearman's rank correlation is one of the oldest and best non-parametric analyses which is suitable for ordinal data and is used to check whether or not there exists a relationship between two variables (i.e. correlation) and to measure the strength and direction of this relationship (Pallant, 2007; Zar, 1972). In this analysis, the correlation coefficient ( $r$ ) is calculated. The correlation coefficient values range from -1.0 to +1.0. Cohen (1988) suggested the following guidelines for the interpretation of ( $r$ ) values: 1)  $r = .10$  to  $.29$  or  $r = -.10$  to  $-.29$ , the correlation is said to be small; 2)  $r = .30$  to  $.49$  or  $r = -.30$  to  $-.49$ , the correlation is said to be medium; and 3)  $r = .50$  to  $1.0$  or  $r = -.50$  to  $-1.0$ , the correlation is said to be high.

Moreover, the value of ( $r$ ) reflects the direction of the correlation, where (-1.0) indicates a perfect negative linear correlation, (+1.0) indicates a perfect positive linear correlation, and (0) means no correlation. In addition, the significance level ( $p$ ) of any relationship should be also examined. If the value of ( $p$ ) is equal or less than 0.05, this means that the correlation is statistically significant since the probability of the correlation test statistics having occurred by chance is very low. However, if the probability of obtaining the correlation statistics by chance is higher than 0.05, then the correlation is not significant.

#### **b) Kolmogorov-Smirnov test**

According to Bryman and Cramer (2001), this test is used to compare the scores of a variable against some specified theoretical distribution, such as the normal distribution. Cooper and Schindler (2006) noted that this test should be performed only when the data is at least ordinal. If the value of ( $p$ ) is equal to or less than 0.05, this indicates that the test is statistically significant and that the distribution of the variable's scores is different from a normal distribution. However, if the value of ( $p$ ) is greater than 0.05, this indicates that there is no significant difference between the distribution of the variable's scores and the normal distribution (i.e. the distribution is normal). In addition to the Kolmogorov-Smirnov test of normality, Normal Q-Q chart plots were used to examine how close the distribution of variables to a normal distribution. The use of the Normal Q-Q chart plots was recommended by Pallant (2007), who argued that these charts are used to assess normality as they plot the observed value for each score against the expected value from the normal distribution.

#### **c) Kruskal-Wallis test**

Kruskal-Wallis is also known as the Kruskal-Wallis H test. According to Bryman and Cramer (2001), it is a non-parametric test similar to the Mann-Whitney U test. However, it helps to compare more than two independent groups (Pallant, 2007). Therefore, it is described as a generalized version of the Mann-Whitney U test (Cooper and Schindler, 2006). Kruskal-Wallis tests the differences between three or more independent samples and then the cases in the different samples are ranked together in one series. Black (1999) noted that this test is used when the variable is at least ordinal and answers the question whether or not three or more groups belong to a single population and whether their differences are within expectation or not. If the test results in a ( $p$ ) value that is equal to or less than 0.05, then, the result is said to be significant and indicates a statistically significant differences between the categories. However, if the value of ( $p$ ) is greater than 0.05, this indicates that there is no significant difference between the categories.

#### **d) Chi-square test**

The Chi-square test is a non-parametric test that is commonly used to examine if two variables are related (Pallant, 2007; Bryman and Cramer, 2001). It reveals whether or not the two variables are associated (i.e. it compares the frequency of cases found in the various groups of one variable across the different groups of another variable and tells if

there are statistically significant differences between groups; that is, whether or not the two variables are independent) (Field, 2009). Each of these variables can have two or more categories (Pallant, 2007). As noted by Bryman and Cramer (2001) and Janes (2001), the Chi-square test is designed to be used with data of a nominal (categorical) level. Hair et al. (2003) added that the Chi-square test can also be applied to data of an ordinal scale.

The interpretation of the result of the Chi-square test is as follows. If the ( $p$ ) value for the resulting Pearson Chi-square is equal or less than 0.05, this indicates a statistically significant association between the two variables and that the two variables are significantly different among their groups which, subsequently means that the hypothesis of a correlation can be accepted. However, if the ( $p$ ) value is larger than 0.05, this indicates no statistically significant association between the two variables and, therefore, the two variables are not significantly different among their groups and that the hypothesis of a correlation should be rejected (Pallant, 2007).

When deciding to use a Chi-square test, a significant assumption has to be taken in to consideration; that is the 'minimum expected cell frequency'. According to Pallant (2007), minimum expected cell frequency should be 5 or greater (or at least 80% of cells have expected frequencies of 5 or more). In case this assumption is violated, the outcomes of the Chi-square test will be less precise (but not necessarily false). Therefore, it is more appropriate in this case to use Fisher's Exact test instead (also provided as part of the output from Chi-square) (Field, 2009; and Pallant, 2007). Another technique that can be carried out in case this assumption is violated is to combine rows and columns in the cross tabulation contingency table (Saunders et al., 2007).

## **5.8 Summary**

Methodology is concerned with a series of linked multi-stage procedures that are required to undertake a research project and achieve its objectives. In this chapter, the research methodology and rationale for choosing different aspects related to the research process have been discussed. This includes deciding on the choice of the research philosophy, approach, strategy, design, data collection methods and statistical methods and tests used for data analysis.

To summarize, the research was based on positivism. It followed the deductive approach which is derived from positivism. Survey was used as the research strategy. Furthermore, the research is considered as cross-sectional as it is carried out once and represents a snapshot of one point of time. The research used primary and secondary data sources. Quantitative was the dominant approach, but the qualitative was the less dominant. Questionnaires were used as the main data collection method and semi-structured interviews were used after conducting the questionnaire. The interviews were conducted with a subset of the respondents to the questionnaire and were used to support and corroborate the quantitative findings.

For the purpose of data analysis, SPSS v.15 was used in order to present and analyze quantitative data, and employ both descriptive and inferential statistics. A number of tests were used for the purpose of analyzing data and testing the hypotheses including: Spearman's rank correlation; Kolmogorov-Smirnov test; Kruskal-Wallis test; and Chi-square test.

# **CHAPTER**

# **6**

## **PRESENTATION, ANALYSIS, AND DISCUSSION OF THE FINDINGS**

## Content

6.1 Introduction	151
6.2 Characteristics of respondents and their organizations	152
6.3 Check for non-response bias	159
6.4 The use of BCM and the existence of an integrated framework for BCM and SP	161
6.5 The practice of Business Continuity Management	173
6.5.1 The person/groups conducting BCM	173
6.5.2 The duration for which BCM has been practised	180
6.5.3 The maturity of BCM	185
6.5.4 The responsibility for BCM	190
6.5.5 The business areas (i.e. participants) involved in BCM	194
6.5.6 The comprehensiveness of BCM	198
6.5.7 The effectiveness of the BCM approach	202
6.5.8 Interview findings regarding BCM practice in Jordanian organizations	206
6.6 Purpose of strategic planning	209
6.6.1 Questionnaire findings	209
6.6.2 Interview findings	213
6.7 The steps required in order to place BCM in the context of SP	215
6.7.1 Questionnaire findings	215
6.7.2 Interview findings	223
6.8 Factors influencing the placing of BCM in the context of SP	225
6.8.1 Questionnaire findings	225
6.8.2 Interview findings	232
6.9 Managers' views of BCM and the placing of BCM in the context of SP	234
6.10 Linking the research conceptual model with the research findings	240
6.11 Summary	243

## **6.1 Introduction**

The research objectives are to:

- 1.** Investigate the use of BCM and the existence of an integrated framework for BCM and SP in Jordanian organizations.
- 2.** Examine the practice of BCM in Jordanian organizations by investigating the following aspects:
  - the person/groups conducting BCM;
  - the duration for which BCM has been practised;
  - the maturity of BCM;
  - the responsibility for BCM;
  - the business areas (i.e. participants) involved in BCM;
  - the comprehensiveness of BCM;
  - and, the effectiveness of the BCM approach.
- 3.** Examine the purpose of SP in Jordanian organizations.
- 4.** Examine a number of steps that are required in order to place BCM in the context of SP.
- 5.** Examine the factors that are likely to drive (i.e. encourage) or obstruct (i.e. discourage) placing BCM in the context of SP within Jordanian organizations.
- 6.** Report managers' views of BCM and the placing of BCM in the context of SP.

This chapter presents, analyses, and discusses the empirical findings. The characteristics of the respondents and their organizations are presented in section 6.2. A check for non-response bias is presented in section 6.3. The use of BCM and the existence of an integrated framework for BCM and SP are investigated in section 6.4 (first objective). Section 6.5 examines BCM practice (second objective). Purpose of SP is examined in section 6.6 (third objective). Section 6.7 examines the steps that are required in order to place BCM in the context of SP (fourth objective). Section 6.8 examines the factors that influence the placing of BCM in the context of SP including drivers and obstacles (fifth objective). Section 6.9 examines managers' views of BCM and the placing of BCM in the context of SP (sixth objective). Section 6.10 examines the extent to which the conceptual model which has been developed in Chapter four fits with the findings.



## 6.2 Characteristics of respondents and their organizations

This section provides an analysis of the characteristics of the respondents and their organizations. These include: respondent titles; number of employees (i.e. size of the organization); duration for which the organization has been involved in SP; age of the organization; industry sector (type of business); ownership of the organization; and the level of risk associated with the organization's type of business.

General Managers (i.e. CEOs) were mainly targeted for the purpose of data collection (i.e. administering the questionnaire) in this research. However, due to a number of reasons, such as: a) the general manager cancelled the appointment with the researcher; b) the general manager was not available; c) the general manager was engaged in a meeting; d) the general manager had to leave urgently or was travelling, the researcher could not contact all general managers. However, as shown in table 6.1 and figure 6.1, 10 general managers and 15 deputy general managers were contacted. The rest of the respondents were key personnel who represent general managers when they were absent or not available.

**Table (6.1):** Respondent titles (n =110)<sup>12</sup>.

<b>Respondent titles</b>		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	General Manager	10	9.1	9.1	9.1
	Deputy General Manager	15	13.6	13.6	22.7
	Business Continuity Manager	6	5.5	5.5	28.2
	Strategic Management Manager	4	3.6	3.6	31.8
	Financial Manager	36	32.7	32.7	64.5
	Human Resources Manager	12	10.9	10.9	75.5
	Administration Manager	10	9.1	9.1	84.5
	Risk and Compliance Manager	11	10.0	10.0	94.5
	Operations Manager	5	4.5	4.5	99.1
	Audit Manager	1	.9	.9	100.0
	Total	110	100.0	100.0	

<sup>12</sup> 'n': represents the number of the surveyed (i.e. responding) organizations from which data was collected.

**Figure (6.1):** Bar chart of respondent titles.

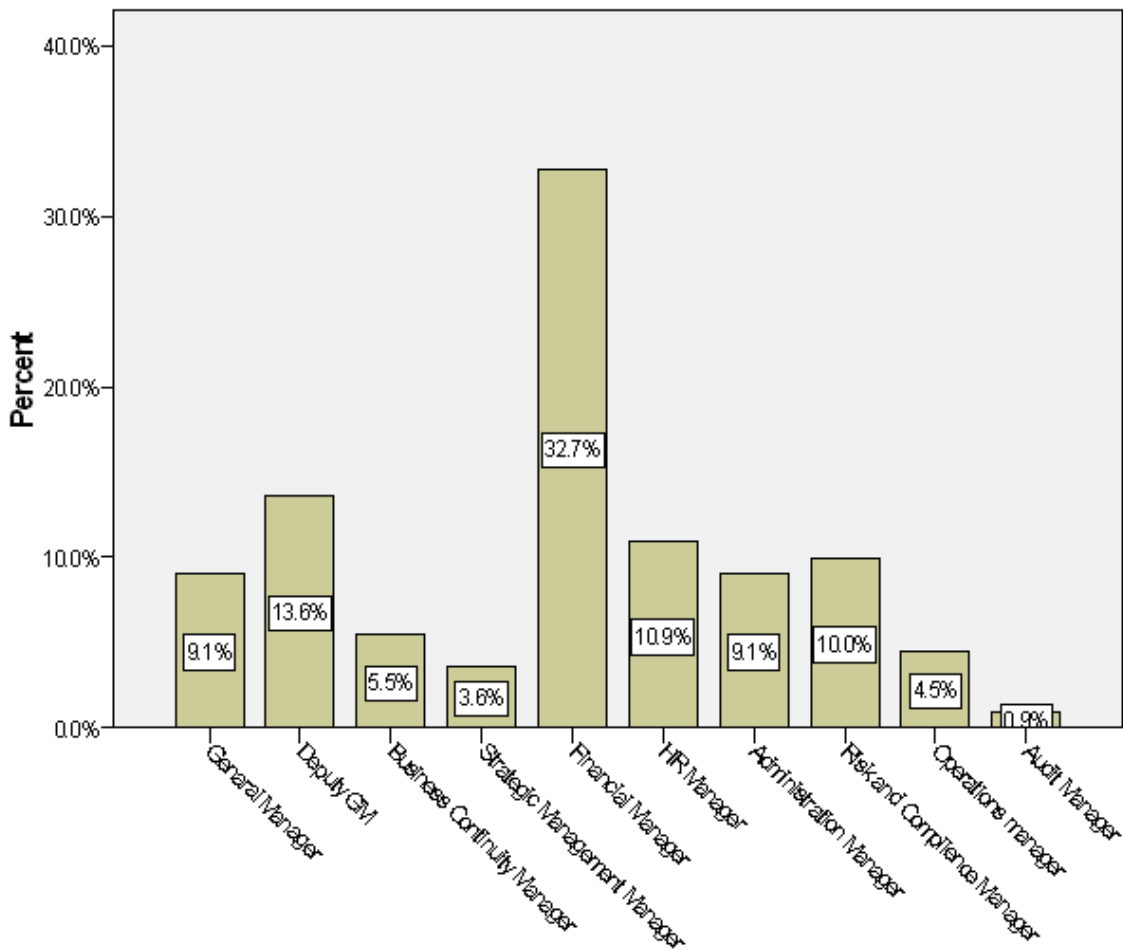


Table 6.2 and figure 6.2 show the classification of the surveyed organizations in terms of the number of employees (i.e. size of the organization<sup>13</sup>). Five categories were identified<sup>14</sup>: organizations that employed up to 50 employees; 51-250 employees; 251-500 employees; 501-2500 employees; and those that employed over 2500 employees. The findings of this research showed that 35.5% of responding organizations employed up to 50 employees; 24.5% employed 51-250 employees; 17.3% employed 251-500 employees; 18.2% employed 501-2500 employees and 4.5% employed more than 2500 employees.

<sup>13</sup> In a study on BCM presented by Pitt and Goyal (2004), the number of employees reflected the size of the organization where those organizations that employed up to 50 employees were considered small, others that employed 51-500 were considered medium and those that employed more than 500 were considered large organizations.

<sup>14</sup> This classification was adopted in previous studies in BCM presented by the Business Continuity Institute, such as Glendon (2009).

**Table (6.2):** Number of employees (size of the organization) (n=110).

Number of employees		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Up to 50	39	35.5	35.5	35.5
	51-250	27	24.5	24.5	60.0
	251-500	19	17.3	17.3	77.3
	501-2500	20	18.2	18.2	95.5
	Over 2500	5	4.5	4.5	100.0
	Total	110	100.0	100.0	

**Figure (6.2):** Bar chart of the number of employees.

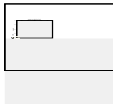
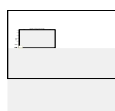


Table 6.3 and figure 6.3 show the number of years the responding organizations had been involved in SP. They show that 55.5% of the responding organizations had been involved in SP for a period up to 10 years; 24.5% had been involved in SP for a period of 11-20 years; 10.9% for a period of 21-30 years; 2.7% for a period of 31-40 years and 6.4% for a period greater than 40 years.

**Table (6.3):** Number of years an organization had been involved in SP (n=110).

Years involved in SP		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Up to 10	61	55.5	55.5	55.5
	11-20	27	24.5	24.5	80.0
	21-30	12	10.9	10.9	90.9
	31-40	3	2.7	2.7	93.6
	Over 40	7	6.4	6.4	100.0
	Total	110	100.0	100.0	

**Figure (6.3):** Bar chart of the number of years an organization had been involved in SP.

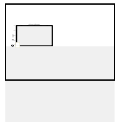


Organizations were also characterized according to their age. Table 6.4 and figure 6.4 show that a vast majority of the responding organizations (75.4%) were between 1 and 30 years of age. This finding is consistent with the findings of earlier studies conducted in Jordan, such as Aldehayyat and Anchor (2008) and Aldehayyat (2006) who found that a clear majority (73.5%) of Jordanian organizations were established after 1975. 9.1% of the responding organizations were 31-40 years of age and 15.5% were over 40 years.

**Table (6.4):** Age of organization (n = 110).

<b>Age in years</b>		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Up to 10	33	30.0	30.0	30.0
	11-20	38	34.5	34.5	64.5
	21-30	12	10.9	10.9	75.5
	31-40	10	9.1	9.1	84.5
	Over 40	17	15.5	15.5	100.0
	Total	110	100.0	100.0	

**Figure (6.4):** Bar chart of the age of the organization.



Organizations were also characterized by their industry sector (type of business). Table 6.5 and figure 6.5 show that 50% of the surveyed organizations belong to the services sector, 27.3% to the industrial sector, 12.7% to the insurance sector and 10% to the banking sector. This indicates that there is a higher focus on the services sector in Jordan than other sectors. This is consistent with the findings of earlier studies conducted in Jordan, such as Aldehayyat and Anchor (2008) and Aldehayyat (2006), who found that Jordan's economy is mostly service oriented.

**Table (6.5):** Industry sector (type of business) (**n = 110**).

<b>Sector</b>		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Industrial	30	27.3	27.3	27.3
	Banking	11	10.0	10.0	37.3
	Insurance	14	12.7	12.7	50.0
	Services	55	50.0	50.0	100.0
	Total	110	100.0	100.0	

**Figure (6.5):** Bar char of industry sector.

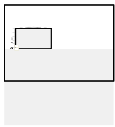


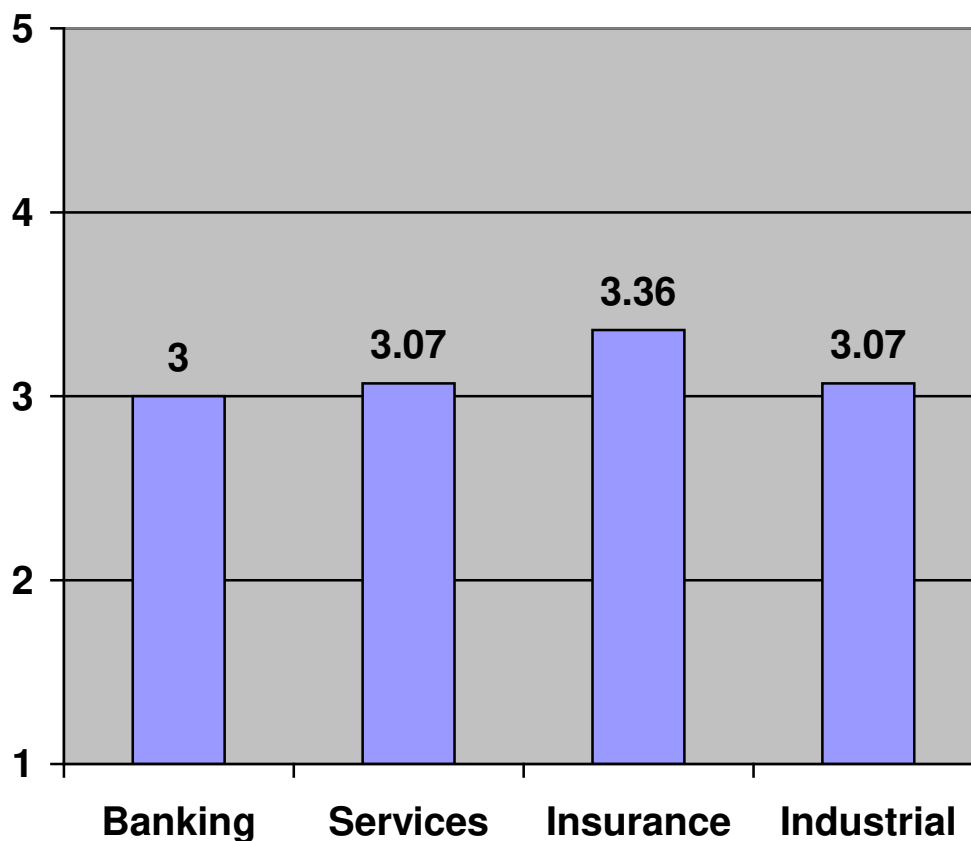
Table 6.6 shows the classification of the surveyed organizations according to their ownership. It shows that 100% of the surveyed organizations were privately-owned either by individuals or other private organizations (i.e. they were PLCs).

**Table (6.6):** Ownership of organizations (**n = 110**).

<b>Ownership of organization</b>		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Private-individuals or other private organizations	110	100.0	100.0	100.0

Lastly, organizations were characterized by the level of risk<sup>15</sup> associated with their industry sector (type of business). Respondents were asked to indicate the levels of risk associated with their type of business as follows: 1 = “very low”; 2 = “low”; 3 = “medium”; 4 = “high” and 5 = “very high”. The findings (figure 6.6) showed that the lowest score was 3 for the banking sector (i.e. the average level of risk that those organizations belong to the banking sector face was 3), followed by 3.07 for both the services and industrial sectors (i.e. the average level of risk that those organizations belong to the services and industrial sectors face was 3.07), and 3.36 for the insurance sector (i.e. the average level of risk that those organizations belong to the insurance sector face was 3.36).

**Figure (6.6): Bar chart:** average level of risk associated with each industry sector (n=110).



<sup>15</sup> It was found that understanding the level of risk associated with the organization’s industry is significant since earlier research showed that risk might vary according to industry sector (Palmer and Wiseman, 1999).

In order to check whether or not there was an association between the levels of risk associated with the organization's type of business and organizational characteristics, such as size, age, and sector, the Chi-square test was used. The results of the Chi-square test showed no statistically significant association between the level of risk associated with the organization's type of business and organizational characteristics, such as size (Fishers' Exact value = 16.389,  $p = .323$ , 2-sided), age (Chi-square value = 23.315,  $p = 0.106$ , 2-sided), and sector (Fisher's Exact value = 11.059,  $p = .447$ , 2-sided). In other words, there were no significant differences between the levels of risk associated with the organization's type of business in terms of size, age, and sector of the organization. This indicates that regardless of the size, age and sector, the larger proportion of Jordanian organizations were facing similar levels of risk. This finding supports figure 6.6 which shows that the largest proportion of Jordanian organizations are exposed to medium levels of risk and only very small part of them face either very high or very low levels of risk. This finding is reasonable since Jordan is a small country where almost all organizations are surrounded by the same business environment to a greater or lesser extent. Moreover, since the majority of Jordanian organizations are similar in age and size (i.e. the majority of Jordanian organizations were established after the year 1975 and employ less than 250 employees). This also might explain why these organizations are exposed to similar levels of risk.

### **6.3 Check for non-response bias**

Since the response rate in this research was 40.1%, which means that there was a non-response rate of 59.9%, testing for non-response bias becomes significant in order to ensure that the sample has the potential to represent the entire population.

Tests performed to determine whether or not there is a difference between respondents and non-respondents are usually conducted with respect to organizational characteristics, such as the size, sector, or age of the organization (Bryman and Cramer, 2001). In this research, testing the differences between respondents and non-respondents was conducted with respect to sector (type of business). Other characteristics, such as age and size were not used in the test since the majority of the Jordanian organizations are relatively close to each other in age and size (i.e. a vast majority of Jordanian organizations were established after the year 1975. A majority of Jordanian organizations also employ less than 250 employees).



The Chi-square test was performed in order to find out whether or not there was a significant difference between respondents and non-respondents with respect to industry category. The results of the Chi-square test reveal that there was no statistically significant difference between respondents and non-respondents with respect to sector (Chi-square value = 6.559,  $p = 0.087$ , 2-sided). This means that the sample was representative and the findings can be generalized from the sample to the population. Table 6.7 illustrates the number of respondents and non-respondents with respect to sector. The outcome of the Chi-square test is shown in table 6.8.

**Table (6.7):** Number of respondents and non-respondents.

		Response		Total
		Respondent	Non-respondent	
<b>Sector (type of business)</b>	Industrial	30	56	86
	Banking	11	6	17
	Insurance	14	14	28
	Services	55	88	143
Total		110	164	274

**Table (6.8):** Outcomes of the Chi-square test.

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	6.559	3	.087
Likelihood Ratio	6.450	3	.092
Linear-by-Linear Association	.051	1	.822
N of Valid Cases	274		

## 6.4 The use of BCM and the existence of an integrated framework for BCM and SP

In this section, an analysis of the findings concerning the use of BCM and the existence of an integrated framework for BCM and SP in Jordanian organizations is made. This analysis contributes to the achievement of the first objective of this research, which is to investigate the use of BCM and the existence of an integrated framework for BCM and SP in Jordanian organizations.

The findings of the questionnaire showed that 89 organizations (80.9% of the sample) had BCM (i.e. used BCM). 21 organizations (19.1%) did not have BCM at all, as shown in table 6.9.

**Table (6.9):** Use of BCM (n = 110).

Use of BCM		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	BCM is used	89	80.9	80.9	80.9
	BCM is not used	21	19.1	19.1	100.0
Total		110	100.0	100.0	

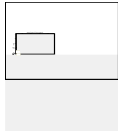
Despite the fact that BCM is a new field of study and is a new emerging area of professional practice (Borodzicz, 2005), and despite the fact that it was not until the early 2000s when business continuity was introduced as a management process that aims to counteract impacts of organizational risk, disasters, and crises (Elliott et al., 2010), this finding indicates that organizations in Jordan from different sectors were quick to recognize the importance and the benefits that can be gained from BCM, and therefore, used BCM. It also reflects a positive attitude towards BCM and a high level of organizational awareness regarding the inevitability of organizational risk, disasters, and crises, and the role of BCM in counteracting their impacts. This wide-spread use of BCM in Jordanian organizations also suggests that Jordan is a leading country in the region in terms of the use of BCM.

The use of BCM in Jordan was found to be similar to the use of BCM in other countries, such as the U.K., China, U.S. and Japan. In the U.K., the findings of research sponsored by the Civil Contingencies Secretariat and the Chartered Management Institute revealed that 73% of respondents reported that BCM was important to their organizations, and 94% of those who had invoked their plans agreed that they had reduced disruption (Strategic Direction, 2008). Pitt and Goyal (2004) also showed that 60% of the responding organizations in the U.K. had BCM. Moreover, it was found that a vast majority of Chinese organizations had BCM as a way of compliance with industry regulations and the globalization of business (KPMG, 2009). Another study conducted in the U.S. with Fortune 1000 organizations showed that the majority of those organizations changed the way they practise crisis management to include BCM activities, such as BIA, developing continuity and disaster recovery plans (Lee and Harrald, 1999). In Japan, the findings of a survey conducted with 84 finance institutions in 2008 revealed that 90% of the respondents had enterprise-wide Business continuity management (BOJ Reports and Research papers, 2009). This reveals that there was a keen focus on the use of BCM in finance organizations in Japan.

However, the use of BCM seems to be different from the findings of some other studies in the field of BCM conducted in different contexts; where BCM was found to be less commonly used and the awareness regarding the role and significance of BCM was found to be low. For example, Abdul Jalil (2009) noted that the level of awareness and use of BCM was still at its infancy in many industries in Malaysia. In addition, it was found that 82% of the large construction companies in Singapore did not have BCM at all (Low et al., 2010).

Of those 89 organizations that used BCM, 39 belong to the services sector, 25 to the industrial sector, 14 to the insurance sector, and 11 to the banking sector, as shown in figure 6.7.

**Figure (6.7):** Bar chart: organizations used BCM (**n = 89**).



The findings showed that 57 organizations, i.e. 51.8% of the surveyed organizations had BCM placed in the context of SP (i.e. BCM was integrated with SP in one framework) (see table 6.10).

**Table (6.10):** Existence of an integrated framework for BCM and SP (**n = 110**).

<b>Existence of an integrated framework for BCM and SP</b>		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	An integrated framework exists	57	51.8	51.8	51.8
	An integrated framework does not exist	53	48.2	48.2	100.0
	Total	110	100.0	100.0	

This finding suggests that: first, there exists common ground between BCM and SP; second, BCM can be raised to a strategic level; third, BCM can be seen as strategic rather than being purely functional or operational; fourth, BCM can play an integrated role in an organization that contributes to the achievement of its strategic goals; and fifth, BCM can be termed “strategic”. This also means that organizations in Jordan are becoming increasingly aware of the fact that combining BCM with their SP will improve SP and will help to prevent unexpected incidents happening, reduce their impact, and ensure the continuity of business operations under many circumstances.

This finding is consistent with the propositions and the findings of Herbane et al. (2004) conducted with six U.K. -based financial organizations. This finding is also consistent with the findings of Marsh’s first European-wide BCM survey in which it was found that many businesses now understand the current operational significance of BCM and are increasingly starting to draw more attention on the strategic role and significance of BCM which can yield in many significant organizational benefits (Marsh, 2008). In addition, this finding shows consistency with Pollard and Hotho’s (2004), Preble’s (1997) and Mitroff et al.’s (1992) opinions. All argued that crisis management – which is considered the roots of BCM and which can be used interchangeably with BCM, as Herbane et al. (2004) noted - could be, and should be integrated with strategic management in order to provide organizations with perspectives on the achievement of strategic plans and the identification of the business functions that are vulnerable to disruption.

For more illustration, the surveyed organizations were classified into three groups. The first group includes those organizations in which BCM was placed in the context of SP (i.e. BCM was integrated with SP in one framework). The second group of organizations includes those organizations that use BCM, but BCM was not placed in the context of SP. The last group of organization includes those organizations that did not use BCM at all. Table 6.11 shows that the number of those organizations that used BCM and in which BCM was placed in the context of SP was 57 (51.8% of the responding organizations). Table 6.12 shows that the number of those organizations that had BCM but in which BCM was not placed in the context of SP was 32 (29.1% of the surveyed organizations). Table 6.13 shows that the number of those organizations that did not use BCM at all was 21 (19.1% of the surveyed organizations).

**Table (6.11):** Group 1 organizations (**n = 110**).

<b>Group 1</b>		BCM was used	BCM was placed in the context of SP
N	Valid	57	57
	Missing	0	0

**Table (6.12):** Group 2 organizations (**n = 110**).

<b>Group 2</b>		BCM was used	BCM was not placed in the context of SP
N	Valid	32	32
	Missing	0	0

**Table (6.13):** Group 3 organizations (**n = 110**).

<b>Group 3</b>		BCM was not used at all
N	Valid	21
	Missing	0

In group 1, where BCM was placed in the context of SP (i.e. BCM was integrated with SP in one framework), it was found that 23 organizations (40.4%) belong to the services sector, 20 organizations (35.1%) belong to the industrial sector, 8 organizations (14%) belong to the banking sector, and 6 organizations (10.5%) belong to the insurance sector (see table 6.14).

**Table (6.14):** Group 1 organizations according to industry sector (**n = 57**).

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Industrial	20	35.1	35.1	35.1
	Banking	8	14.0	14.0	49.1
	Insurance	6	10.5	10.5	59.6
	Services	23	40.4	40.4	100.0
	Total	57	100.0	100.0	

In group 2, where BCM was used but was not placed in the context of SP, it was found that 16 organizations (50%) belong to the services sector, 8 organizations (25%) belong to the insurance sector, 5 organizations (15.6%) belong to the industrial sector, and 3 organizations (9.4%) belong to the banking sector (see table 6.15).

**Table (6.15):** Group 2: organizations according to industry sector (**n = 32**).

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Industrial	5	15.6	15.6	15.6
	Banking	3	9.4	9.4	25.0
	Insurance	8	25.0	25.0	50.0
	Services	16	50.0	50.0	100.0
	Total	32	100.0	100.0	

In group 3, where BCM was not used, it was found that 16 organizations (76.2%) belong to the services sector, and 5 organizations (23.8%) belong to the industrial sector (see table 6.16).

**Table (6.16):** Group 3: organizations according to industry sector (**n = 21**).

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Industrial	5	23.8	23.8	23.8
	Services	16	76.2	76.2	100.0
	Total	21	100.0	100.0	

To examine whether or not there was an association between the use of BCM and industry sector, Chi-square test was used. However, since the crosstabulation table shows that there were 2 cells (i.e. 25% of cells) had an expected count of less than 5; Fisher's Exact probability test was used. The results indicate that there was a statistically significant association between the use of BCM and sector (Fisher's Exact value = 9.142,  $p = 0.018$ ) (i.e. statistically significant differences exist between the four sectors in terms of the use of BCM and that the two variables are dependent) (see Table 6.17).

**Table (6.17):** Use of BCM and sector crosstabulation ( $n = 110$ ).

			Industry sector (type of business)				Total
			Industrial	Banking	Insurance	Services	
Use of BCM	BCM is used	Count	25	11	14	39	89
		Expected Count	24.3	8.9	11.3	44.5	89.0
		% within Industry sector (type of business)	83.3%	100.0%	100.0%	70.9%	80.9%
	BCM is not used	Count	5	0	0	16	21
		Expected Count	5.7	2.1	2.7	10.5	21.0
		% within Industry sector (type of business)	16.7%	.0%	.0%	29.1%	19.1%
Total	Count	30	11	14	55	110	
	Expected Count	30.0	11.0	14.0	55.0	110.0	
	% within Industry sector (type of business)	100.0%	100.0%	100.0%	100.0%	100.0%	

**Chi-Square Tests**

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)	Point Probability
Pearson Chi-Square	9.574(a)	3	.023	.023		
Likelihood Ratio	13.899	3	.003	.004		
Fisher's Exact Test	9.142			.018		
Linear-by-Linear Association	2.864	1	.091	.093	.053	.018
N of Valid Cases	110					

a 2 cells (25.0%) have expected count less than 5. The minimum expected count is 2.10.

In other words, the pattern of responses (i.e. the proportion of those organizations that used BCM to the proportion of those that did not) in the four industry sectors is significantly different. Table 6.17 also shows that 70.9% of service organizations used BCM, compared to 83.3% of industrial organizations, and 100% of banking and insurance organizations. This pattern shows that there was a more focus on the use of BCM in the banking and insurance organizations in Jordan.



In order to investigate why there was a statistically significant association between the use of BCM and sector, a closer look at table 6.17 shows that within the services sector, there was a large difference between the expected count and the actual count of those organizations that did not use BCM (i.e. the expected count was 10.5 and the actual count was 16). This means that the number of those services organizations that did not use BCM was greater than the expected number. This also explains why the number of those organizations within the services sector that used BCM was less than the expected (i.e. the expected count was 44.5 and the actual count was 39). This large difference between the expected count and the actual count of those organizations from the services sector may possibly explain why there was some sort of association between the use of BCM and the sector.

These findings show that BCM was used by organizations from different sectors in Jordan and that the use of BCM varied significantly between those sectors (i.e. banking, insurance, services and industrial), with more focus on the use of BCM in the banking and insurance organizations.

This finding is consistent with the findings of a number of studies of BCM, such as those of Woodman (2008); Woodman (2007); Williamson (2007) and Pitt and Goyal (2004) which found that the use of BCM varied widely between various sectors. Woodman (2008) found that 89% of the managers working in finance and insurance sectors reported that they used BCM. The utilities sector and central government were next highest at 83%. Local government was at 69%, and the lower scoring sectors were the business services (43%) and IT (33%). Woodman (2007) also found that 80% of the managers working in finance and insurance reported that they used BCM. The utilities sector was second highest at 76%, and the construction and education sectors were the lowest ranking sectors. SteelEye Technology's – a technology service provider- global study found that BCM was used widely within financial organizations and such organizations were ahead of other sectors (Williamson, 2007). In addition, Pitt and Goyal (2004) found that organizations from different sectors varied in terms of the use of BCM. It was also found that there was a keen focus on the use of BCM in financial organizations in Japan (BOJ Reports and Research papers, 2009).

In order to examine whether or not there was an association between the use of BCM and the level of risk associated with the organization's type of business, the Chi-square test was used. The output of the Chi-square showed no statistically significant association between the level of risk associated with the organization's type of business and the use of BCM (i.e. no statistically significant differences exist between those organizations that use BCM in terms of level of risk. That is to say, the two variables are independent, Fisher's Exact value = 6.216,  $p = .144$ ). In other words, the pattern of responses (i.e. the proportion of those organizations that used BCM to the proportion of those that did not) within the five categories of risk was not significantly different. This suggests that despite the level of risk facing them, Jordanian organizations were aware of the significance of BCM and therefore used BCM.

In order to examine whether or not there was an association between the use of BCM and the size of the organization, the Chi-square test was used. However, since 4 cells (40.0%) have an expected count of less than 5, Fisher's Exact test was used. The output shows a statistically significant association between the use of BCM and the size of the organization (Fisher's Exact value = 21.587,  $p = .000$ , 2-sided). This means that there are significant differences between the 5 categories of size in terms of the use of BCM (table 6.18). In other words, the pattern of responses (the proportion of those organizations that used BCM to the proportion of those that did not) in the five categories of size was significantly different. Table 6.18 shows that 59% of those organizations that employed up to 50 employees used BCM, compared to 81.5% of those that employed 51-250, 100% of those that employed 251-500, 100% of those that employed 501-2500, and 100% of those that employed more than 2500 employees. This pattern shows that there was a focus on the use of BCM in large organizations more than the smaller ones in Jordan.

**Table (6.18): Use of BCM and size crosstabulation (n = 110).**

			Number of employees (size)					Total
			Up to 50	51-250	251-500	501-2500	> 2500	Up to 50
Use of BCM	BCM is used	Count	23	22	19	20	5	89
		Expected Count	31.6	21.8	15.4	16.2	4.0	89.0
		% within Number of employees (size)	59.0%	81.5%	100.0%	100.0%	100.0%	80.9%
	BCM is not used	Count	16	5	0	0	0	21
		Expected Count	7.4	5.2	3.6	3.8	1.0	21.0
		% within Number of employees (size)	41.0%	18.5%	.0%	.0%	.0%	19.1%
Total	Count	39	27	19	20	5	110	
	Expected Count	39.0	27.0	19.0	20.0	5.0	110.0	
	% within Number of employees (size)	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	

**Chi-square test**

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)	Point Probability
Pearson Chi-Square	22.536(a)	4	.000	.000		
Likelihood Ratio	28.581	4	.000	.000		
Fisher's Exact Test	21.587			.000		
Linear-by-Linear Association	19.204(b)	1	.000	.000	.000	.000
N of Valid Cases	110					

a 4 cells (40.0%) have expected count less than 5. The minimum expected count is .95.

b The standardized statistic is -4.382.

In order to investigate why there was a significant association between the use of BCM and size, a closer look at table 6.18 shows that in the first category of size (up to 50), there was a large difference between the expected count and the actual count for those organizations that did not use BCM (i.e. the expected count was 7.4 and the actual count was 16). This means that the number of those organizations that did not use BCM was greater than expected. This also explains why the number of those organizations that employ up to 50 employees that used BCM was less than expected (i.e. the expected count was 31.6 and the actual count was 23). This large difference between the expected count and the actual count of those organizations that did not use BCM may possibly explain why there was some sort of association between the use of BCM and the size of the organization.

The finding showed that there was a statistically significant association between the use of BCM and the size of the organization; where larger organizations were more likely to use BCM than small organizations. This is consistent with the findings of Woodman and Hutchings (2010), Woodman (2008), and Woodman (2007) who found that BCM is more likely to be used in larger organizations than the smaller ones.

To examine whether or not there was an association between the use of BCM and the age of the organization, the Chi-square test was used. However, since the crosstabulation table shows that there were 3 cells (i.e. 30% of cells) which had an expected count of less than 5; Fisher’s Exact test was used instead. The results indicate that there was a statistically significant association between the use of BCM and age (Fisher’s Exact value = 24.637,  $p = 0.000$ , 2-sided) (i.e. significant differences exist between the five categories of age in terms of the use of BCM and that the two variables are dependent) (table 6.19). In other words, the pattern of responses (i.e. the proportion of those organizations that used BCM to the proportion of those that did not) in the five categories of age was significantly different. Table 6.19 also shows that 51.5% of those organizations aged up to 10 years used BCM, compared to 86.8% of those aged 11-20 years, and 100% of those aged 21-30, 31-40, and more than 40 years. This pattern shows that there was a higher focus on the use of BCM in old organizations more than the younger ones.

**Table (6.19):** Use of BCM and age crosstabulation (**n = 110**).

			Age of the organization					Total
			Up to 10	11-20	21-30	31-40	> 40	Up to 10
Use of BCM	BCM is used	Count	17	33	12	10	17	89
		Expected Count	26.7	30.7	9.7	8.1	13.8	89.0
		% within Age of the organization	51.5%	86.8%	100.0%	100.0%	100.0%	80.9%
	BCM is not used	Count	16	5	0	0	0	21
		Expected Count	6.3	7.3	2.3	1.9	3.2	21.0
		% within Age of the organization	48.5%	13.2%	.0%	.0%	.0%	19.1%
Total	Count	33	38	12	10	17	110	
	Expected Count	33.0	38.0	12.0	10.0	17.0	110.0	
	% within Age of the organization	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	

### Chi-Square Test

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)	Point Probability
Pearson Chi-Square	28.527(a)	4	.000	.000		
Likelihood Ratio	31.948	4	.000	.000		
Fisher's Exact Test	24.637			.000		
Linear-by-Linear Association	19.447(b)	1	.000	.000	.000	.000
N of Valid Cases	110					

a 3 cells (30.0%) have expected count less than 5. The minimum expected count is 1.91.

b The standardized statistic is -4.410.

In order to investigate why there was a significant association between the use of BCM and age of the organization, a closer look at table 6.19 shows that in the first category of age (up to 10 years), there was a large difference between the expected count and the actual count of those organizations that did not use BCM (i.e. the expected count was 6.3 and the actual count was 16). This means that the number of those organizations, in this category of age, which did not use BCM, was greater than expected. This also explains why the number of those organizations aged up to 10 years that used BCM was less than expected (i.e. the expected count was 26.7 and the actual count was 17). This large difference between the expected count and the actual count of those organizations may possibly explain why there was some sort of association between the use of BCM and the age of the organization.

## 6.5 The practice of Business Continuity Management

In this section, an analysis and discussion of the findings concerning the practice of BCM in Jordanian organizations is made via examining aspects of BCM practice. These aspects include: the person/groups conducting BCM; the duration for which BCM has been practised; maturity level of BCM; the responsibility for BCM; the business areas (i.e. participants) involved in BCM; the comprehensiveness of BCM and the effectiveness of the BCM approach. This analysis contributes to the achievement of the second objective of this research, which is examining the practice of BCM in Jordanian organizations.

### 6.5.1 The person/groups conducting BCM

The respondents were asked to indicate who conducts BCM in their organizations. In order to answer this question, the respondents were asked to choose one of four options provided. Table 6.20 shows that 41.8% of the responding organizations conducted BCM using employees from inside the organization in addition to external consultants. The table also shows that 37.3% of the responding organizations conducted BCM using only employees from inside the organization, and 1.8% of the responding organizations conducted BCM using only external consultants. The other responding organizations (i.e. 19.1%) did not conduct BCM in any way.

**Table (6.20):** The person/groups conducting BCM (n = 110).

Who conducts BCM	Frequency	Percent	Rank	Valid Percent	Cumulative Percent
Valid					
Internal employees	41	37.3	2	37.3	37.3
External consultants	2	1.8	4	1.8	39.1
Internal employees and external consultants	46	41.8	1	41.8	80.9
BCM is not practised at all	21	19.1	3	19.1	100.0
Total	110	100.0		100.0	

This finding shows that the majority of organizations in Jordan depended primarily on their own employees in conducting BCM. This finding suggests that Jordanian organizations were aware of the advantage of building in-house BCM which, as was discussed in chapter four, allows an organization to develop business continuity plans that follow its business models and facilitates performing BCM activities, such as training, testing, maintenance and updating of the plans. This finding is similar to the finding of Pitt and Goyal (2004), in which the majority of organizations in the U.K. conducted BCM using internal teams, followed by those that used internal teams and external consultants.

To examine whether or not there is an association between the person/groups conducting BCM and the sector of the organization, the Chi-square test was used. However, since there are 4 cells that have an expected count of less than 5, Fisher's Exact test is used (see table 6.21). Fisher's Exact test shows that there is no statistically significant association between the person/groups conducting BCM and sector (Fisher's Exact value = 7.123,  $p = .243$ , 2-sided).

**Table (6.21): Chi-square test: The person/groups conducting BCM by sector (n=89).**

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)	Point Probability
Pearson Chi-Square	7.172(a)	6	.305	.281		
Likelihood Ratio	7.481	6	.279	.289		
Fisher's Exact Test	7.123			.243		
Linear-by-Linear Association	1.423(b)	1	.233	.242	.125	.016
N of Valid Cases	89					

a 4 cells (33.3%) have expected count less than 5. The minimum expected count is .25.

b The standardized statistic is 1.193.

This means that there is no relationship between the person/groups conducting BCM and the industry sector (i.e. no statistically significant differences exist between the four industry sectors in terms of the person/groups conducting BCM and that the two variables are independent).

To examine whether or not there is an association between the person/groups conducting BCM and the size of the organization (i.e. whether or not the two variables are independent), the Chi-square test was used. However, since there are 7 cells that have an expected count of less than 5, Fisher's Exact test was used (see table 6.22). The result of the Fisher's Exact test shows that there was no statistically significant association (Fisher's Exact value = 9.202,  $p = .248$ , 2-sided).

**Table (6.22): Chi-square test: The person/groups conducting BCM by size (n = 89).**

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)	Point Probability
Pearson Chi-Square	8.402(a)	8	.395	.413		
Likelihood Ratio	9.375	8	.312	.306		
Fisher's Exact Test	9.202			.248		
Linear-by-Linear Association	.579(b)	1	.447	.468	.237	.026
N of Valid Cases	89					

a 7 cells (46.7%) have expected count less than 5. The minimum expected count is .11.

b The standardized statistic is -.761.

This means that there is no relationship between the person/groups conducting BCM and size of the organization (i.e. no statistically significant differences exist between the five categories of size in terms of the person/groups conducting BCM and that the two variables are independent).

For further analysis, to examine whether or not there is an association between the person/groups conducting BCM and the age of the organization (i.e. whether or not the two variables are independent), the Chi-square test was used. However, since there are 6 cells that have an expected count of less than 5, Fisher's Exact test is used (see table 6.23). The results of the Fisher Exact test shows that there was no statistically significant association (Fisher's Exact value = 11.175,  $p = .111$ , 2-sided).

**Table (6.23): Chi-square test: The person/groups conducting BCM by age (n = 89).**

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)	Point Probability
Pearson Chi-Square	11.264(a)	8	.187	.169		
Likelihood Ratio	11.838	8	.159	.132		
Fisher's Exact Test	11.175			.111		
Linear-by-Linear Association	3.875(b)	1	.049	.050	.027	.004
N of Valid Cases	89					

a 6 cells (40.0%) have expected count less than 5. The minimum expected count is .22.

b The standardized statistic is -1.969.



This means that there is no relationship between the person/groups conducting BCM and the age of the organization (i.e. no statistically significant differences exist between the five categories of age in terms of the person/groups conducting BCM and that the two variables are independent).

To examine whether or not there is an association between the person/groups conducting BCM and the level of risk associated with the organization's type of business (i.e. whether or not the two variables are independent), the Chi-square test was used. However, since there were 9 cells that have an expected count of less than 5, Fisher's Exact test was used (see table 6.24). The results shows that there was no statistically significant association (Fisher's Exact value = 3.490,  $p = .997$ , 2-sided).

**Table (6.24): Chi-square test:** The person/groups conducting BCM by the level of risk associated with the organization's type of business (**n = 89**).

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)	Point Probability
Pearson Chi-Square	1.394(a)	8	.994	.997		
Likelihood Ratio	1.861	8	.985	.997		
Fisher's Exact Test	3.490			.997		
Linear-by-Linear Association	.240(b)	1	.624	.636	.335	.042
N of Valid Cases	89					

a 9 cells (60.0%) have expected count less than 5. The minimum expected count is .07.

b The standardized statistic is .490.

This means that there is no statistically significant relationship between the person/groups conducting BCM and the level of risk associated with the organization's type of business (i.e. no statistically significant differences exist between the five categories of risk in terms of the person/groups conducting BCM and that the two variables are independent).

As a result, the findings showed that there was no association between the person/groups conducting BCM and organizational characteristics, such as sector, size, age, and the level of risk associated with the organization's type of business. This means that the selection of the person/groups conducting BCM was independent (i.e. not bound to) of these characteristics.

Furthermore, for those organizations that did not conduct BCM (i.e. did not practise BCM) at all (n = 21), the respondents were asked on a scale rating from 1 = “not important” to 5 = “extremely important” to describe the importance of having a fully comprehensive and integrated BCM based on the lessons learnt from disasters or crises they faced in the past. Table 6.25 shows that 52.4% of the respondents described the importance of having a fully comprehensive and integrated BCM based on the lessons learned from disasters and crises they faced in the past as “very important”, 38.1% described it as “extremely important” and 9.5% described it as “important”.

**Table (6.25):** The importance of having a fully comprehensive and integrated BCM (n = 21).

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Important	2	9.5	9.5	9.5
Very important	11	52.4	52.4	61.9
Extremely important	8	38.1	38.1	100.0
Total	21	100.0	100.0	

This indicates that despite the fact that those organizations did not practise BCM at all, they were aware of the importance of BCM and its potential organizational advantages in reducing and preventing disasters and crises and ensuring effective recovery following such events. It also indicates that those organizations were aware of the significance of integrating BCM in the organization’s culture and SP.

Therefore, the respondents from those Jordanian organizations that did not conduct BCM (i.e. did not practise BCM at all) (n = 21) were asked when they intend to produce a fully comprehensive/integrated BCM. The results show that 38.1% of the responding organizations intend to produce a fully comprehensive/integrated BCM in 1-2 years, 23.8% after 2 years, 23.8% in the next year, and 14.3% did not intend to have BCM at all (table 6.26).

**Table (6.26):** When do you intend to produce a fully comprehensive/integrated BCM? (n = 21).

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid In the next year	5	23.8	23.8	23.8
In 1-2 years	8	38.1	38.1	61.9
After 2 years	5	23.8	23.8	85.7
Do not intend to have BCM	3	14.3	14.3	100.0
Total	21	100.0	100.0	

Respondents from those organizations that did not practise BCM (n = 21) were asked if BCM was not fully comprehensive/integrated in their organizations, which statement(s) describes their organization's decision not to have fully comprehensive and integrated BCM. The respondents had to choose from five options. Table 6.27 shows that 52.4% of the responding organizations reported that insufficiency of resources was the reason for not having a fully comprehensive/integrated BCM; 38.1% reported that the reason was that risk is considered low; 4.8% reported that the reason was that BCM is considered unnecessary and another 4.8% reported that the reason was a conscious decision to exclude specific business areas.

**Table (6.27):** If BCM is not fully comprehensive and integrated, which statement(s) describes your organization's decision not to have fully comprehensive and integrated BCM? (n = 21).

	Frequency	Percent	Valid Percent	Cumulative Percent	Rank
Valid Conscious decision to exclude specific business areas	1	4.8	4.8	4.8	3
Not considered necessary	1	4.8	4.8	9.5	3
Risk is considered low	8	38.1	38.1	47.6	2
Insufficient resources	11	52.4	52.4	100.0	1
Total	21	100.0	100.0		

These findings are consistent with those of Pitt and Goyal (2004) who found that the insufficiency of resources and the low level of risk facing the organization were the main reasons for not having BCM. These findings are also consistent with the findings of a recent study of Low et al. (2010) who found that 82% of the responding construction organizations in Singapore did not have BCM, as a result of lack of financial resources, lack of trained human resources, and lack of awareness of the significance of BCM in counteracting corporate risk and unexpected incidents.

## 6.5.2 The duration for which BCM has been practised

In this section, the respondents in those organizations that practised BCM ( $n = 89$ ) were asked to indicate the duration for which BCM had been practised by choosing one of the three options provided. Table 6.28 shows that the majority of the responding organizations (55.1%) had been practising BCM for more than 5 years, 36% for 1-5 years, and 8.9% for less than one year.

**Table (6.28):** The duration for which BCM has been practised ( $n = 89$ ).

Duration for which BCM has been practised		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Less than 1 year	8	8.9	8.9	8.9
	1-5 years	32	36.0	36.0	44.9
	Greater than 5 years	49	55.1	55.1	100.0
	Total	89	100.0	100.0	

The fact that the majority of Jordanian organizations (i.e. 55.1%) had been practising BCM for more than five years suggests that Jordanian organizations, like some others in the region and around the world, were influenced to a certain extent by the major crises and disasters that took place at the beginning of the new millennium, such as the Y2K and 9/11 terrorist attacks. Consequently, this triggered the need for having BCM as a tool to counteract similar threats that may possibly take place in future. This is consistent with Wong (2009), Gallagher (2003) and Alonso and Boucher (2001) who argued that man-made and natural disasters, Y2K, and 9/11 events provided a great boost for BCM and highlighted the significance of BCM in sustaining business critical functions.

This was found to be similar to the situation in the U.K. where 62% of those organizations from various industry sectors (other than manufacturing) had been practising BCM for more than 5 years. 24% had been practising BCM for 1 and 5 years, and a minority (14%) had been practising BCM for less than 1 year. In the manufacturing sector, it was found that 60% of the surveyed organizations had been practising BCM for more than 5 years. 27% had been practising BCM for between 1 and 5 years, and 13% from the manufacturing sector had been practising BCM for less than 1 year (Pitt and Goyal, 2004). Moreover, nearly 38% of the respondents from the Middle East claimed to

have more than 5 years of experience in business continuity in one way or the other (Zawya, 2009). However, it was found that a vast majority of Chinese organizations had been practising BCM for only two years (KPMG, 2009).

To examine whether or not there is an association between the duration for which BCM has been practised and the industry sector (i.e. whether or not the two variables are independent), the Chi-square test was used. However, since there are 5 cells that have an expected count of less than 5, Fisher's Exact test is used (see table 6.29). Fisher's Exact test shows that there is a statistically significant association between the duration for which BCM has been practised and the sector of the organization (Fisher's Exact value = 14.740,  $p = 0.012$ , 2-sided). This means that significant differences do exist between the four sectors in terms of the duration for which BCM has been practised and that the two variables are dependent.

**Table (6.29): Chi-square test: the duration for which BCM has been practised/sector (n = 89).**

Duration for which BCM has been practised.		Industry sector (type of business)				Total
		Industrial	Banking	Insurance	Services	Industrial
Less than 1 year	Count	0	0	5	3	8
	Expected Count	2.2	1.0	1.3	3.5	8.0
	% within Industry sector (type of business)	.0%	.0%	35.7%	7.7%	9.0%
1-5 years	Count	6	5	4	17	32
	Expected Count	9.0	4.0	5.0	14.0	32.0
	% within Industry sector (type of business)	24.0%	45.5%	28.6%	43.6%	36.0%
Greater than 5 years	Count	19	6	5	19	49
	Expected Count	13.8	6.1	7.7	21.5	49.0
	% within Industry sector (type of business)	76.0%	54.5%	35.7%	48.7%	55.1%
Total	Count	25	11	14	39	89
	Expected Count	25.0	11.0	14.0	39.0	89.0
	% within Industry sector (type of business)	100.0%	100.0%	100.0%	100.0%	100.0%

## Chi-square test

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)	Point Probability
Pearson Chi-Square	19.776(a)	6	.003	.003		
Likelihood Ratio	18.226	6	.006	.008		
Fisher's Exact Test	14.740			.012		
Linear-by-Linear Association	5.098(b)	1	.024	.026	.013	.004
N of Valid Cases	89					

a 5 cells (41.7%) have expected count less than 5. The minimum expected count is .99.

b The standardized statistic is -2.258.

In order to investigate why there was a significant association between the duration for which BCM has been practised and sector, a close look at table 6.29 shows that within the industrial sector, there was a large difference between the expected count and the actual count of those organizations that have BCM for more than five years (i.e. expected count was 13.8 and the actual count was 19). This means that the number of those organizations from the industrial sector who have had BCM for more than five years was greater than the expected. This also explains why the number of those organizations within the industrial sector that have had BCM for periods less than five years were less than the expected. This large difference between the expected count and the actual count of those organizations that have had BCM for more than five years within the industrial sector may possibly explain why there was some sort of association between the duration for which BCM was practised and the sector in Jordanian organizations.

To examine whether or not there is an association between the duration for which BCM has been practised and the size of the organization (i.e. whether or not the two variables are independent), the Chi-square test was used. However, since there were 7 cells that have an expected count of less than 5, Fisher's Exact test is used (see table 6.30). Fisher's Exact test shows no statistically significant association (Fisher's Exact value = 8.258,  $p = 0.374$ , 2-sided). This means that there is no association between the duration for which BCM has been practised and the size of the organization (i.e. no statistically significant differences exist between the five categories of size in terms of the duration for which BCM has been practised and that the two variables are independent).

**Table (6.30): Chi-square test: duration for which BCM has been practised/size (n= 89).**

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)	Point Probability
Pearson Chi-Square	8.556(a)	8	.381	.390		
Likelihood Ratio	10.558	8	.228	.310		
Fisher's Exact Test	8.258			.374		
Linear-by-Linear Association	5.136	1	.023	.023	.013	.004
N of Valid Cases	89					

a 7 cells (46.7%) have expected count less than 5. The minimum expected count is .45.

In order to examine whether or not there is an association between the duration for which BCM has been practised and the age of the organization (i.e. whether or not the two variables are independent), the Chi-square test was also used. However, since there are 7 cells that have an expected count of less than 5, Fisher's Exact test is used (see table 6.31). The Fisher's Exact test shows that there is no statistically significant association (Fisher's Exact value = 8.458,  $p = 0.342$ , 2-sided) between the duration for which BCM has been practised and the age of the organization (i.e. no statistically significant differences exist between the five categories of age in terms of the duration for which BCM has been practised and that the two variables are independent).

**Table (6.31): Chi-square test: Duration for which BCM has been practised/ age (n=89).**

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)	Point Probability
Pearson Chi-Square	8.985(a)	8	.344	.350		
Likelihood Ratio	11.028	8	.200	.274		
Fisher's Exact Test	8.458			.342		
Linear-by-Linear Association	2.842	1	.092	.094	.051	.011
N of Valid Cases	89					

a 7 cells (46.7%) have expected count less than 5. The minimum expected count is .90.



As a result, the research findings showed that the duration for which BCM had been practised differs significantly between various industry sectors in Jordan. This means that Jordanian organizations from the banking, insurance, services, and industrial sectors had been practising BCM either for shorter or longer periods. The research findings also showed that there was no statistically significant association between the duration for which BCM had been practised and organizational characteristics, such as size and age. This means that size and age had no influence or did not affect the duration for which BCM had been practised (i.e. the duration for which BCM had been practised varied regardless of the size or age of the organization). This supports the abovementioned discussion which showed that the majority of Jordanian organizations (55.1%) -regardless of their age and size- practised BCM for more than five years (e.g. following the Y2K crisis and 9/11 terrorist events in the U.S.).

### 6.5.3 The maturity of BCM

The respondents from those organizations that practise BCM (i.e. n = 89), were asked to identify the maturity level of BCM in their organizations by choosing one of four options. Table 6.32 shows that a vast majority (64%) of the responding organizations reported that BCM has a strategic nature; 13.5% reported that BCM covers technical interruptions across the organization; 12.4% reported that BCM covers socio-technical interruptions across the organization; and 10.1% reported that BCM covers only the technical and operational aspects of the organization.

**Table (6.32):** The maturity level of BCM (n = 89).

Level of Maturity of BCM	Frequency	Percent	Valid Percent	Cumulative Percent	Rank
Valid BCM covers only the technical and operational aspects of the organization.	9	10.1	10.1	10.1	4
BCM covers technical interruptions across the organization.	12	13.5	13.5	23.6	2
BCM covers socio-technical interruptions across the organization.	11	12.4	12.4	36.0	3
BCM can be termed "strategic oriented".	57	64.0	64.0	100.0	1
Total	89	100.0	100.0		

This finding indicates that the respondents had a positive feeling towards a potential strategic nature and role of BCM. That is to say, those respondents saw BCM as having a strategic role rather than being a purely functional or operational process with limited impact and influence on their organizations. This finding also indicates that there exists common ground between BCM and SP; BCM can be seen as strategic rather than being purely functional or operational; and BCM has the potential to contribute to the achievement of the strategic goals of the organization. This also suggests that organizations in Jordan are becoming increasingly aware that raising BCM to a strategic level will help to prevent unforeseen risks and ensure the continuity of business operations under many circumstances.

This finding is consistent with the findings of a number of studies of BCM, such as Momani (2010) who found that two U.K. finance organizations showed that BCM was more aligned towards a mission critical strategic role; Herbane et al.'s (2004) study, in which it was proposed that BCM can be considered as a strategic process rather than being purely functional or operational; and Pitt and Goyal (2004) who found that BCM had been adopted as a strategic management tool by most of the organizations included in their study.

It is also consistent with Herbane et al.'s (2004) empirical findings which indicated that there was a potential for BCM to have a strategic role that is capable of addressing a wider set of disasters and crises than those arising from IT interruptions alone, and that BCM had a cross-functional influence rather than being purely operational, using six U.K. financial services organizations. This finding is also consistent with the findings of a study conducted by Foster and Dye (2005) of 12 North American-based organizations with international portfolios where the findings showed that business continuity was a strategic process based on two factors: first, BCM was linked to corporate values, purposes and culture; and second, BCM was considered as an enterprise-wide process that had cross-functional impact, that is to say, it is not limited to particular business areas. In addition, Marsh's First European-wide Business Continuity Management Survey conducted in 2008 also showed consistency with this finding regarding the maturity level of BCM. It was found that 79% of the respondents reported that BCM was aligned to the strategic objectives and plans of their organizations (Marsh, 2008).

In order to examine whether or not there is an association between the level of maturity of BCM and the industry sector (i.e. whether or not the two variables are independent), the Chi-square test was used. However, since there are 11 cells that have an expected count of less than 5, Fisher's Exact test is used (table 6.33). The Fisher's Exact test shows that there is no statistically significant association (Fisher's Exact value = 11.622,  $p = 0.173$ , 2-sided).

**Table (6.33): Chi-square test: level of maturity of BCM by sector (n = 89).**

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)	Point Probability
Pearson Chi-Square	12.077(a)	9	.209	.206		
Likelihood Ratio	14.755	9	.098	.164		
Fisher's Exact Test	11.622			.173		
Linear-by-Linear Association	6.170(b)	1	.013	.013	.006	.001
N of Valid Cases	89					

a 11 cells (68.8%) have expected count less than 5. The minimum expected count is 1.11.

b The standardized statistic is -2.484.

This means that there is no relationship between the level of maturity of BCM and industry sector (i.e. no statistically significant differences exist between the four industry sector in terms of the level of maturity of BCM and that the two variables are independent).

In order to examine whether or not there is an association between the level of maturity of BCM and the size of the organization (i.e. whether or not the two variables are independent), the Chi-square test was used. However, since there are 16 cells that have an expected count of less than 5, Fisher's Exact test is used (see table 6.34). Fisher's Exact test shows no statistically significant association (Fisher's Exact value = 17.151,  $p = 0.079$ , 2-sided).

**Table (6.34): Chi-square test: the maturity level of BCM by size (n = 89).**

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)	Point Probability
Pearson Chi-Square	17.914(a)	12	.118			
Likelihood Ratio	20.276	12	.062	.110		
Fisher's Exact Test	17.151			.079		
Linear-by-Linear Association	1.393(b)	1	.238	.241	.128	.016
N of Valid Cases	89					

a 16 cells (80.0%) have expected count less than 5. The minimum expected count is .51.  
 b The standardized statistic is 1.180.

This means that there is no relationship between the level of maturity of BCM and the size of the organization (i.e. no significant differences exist between the five categories of size in terms of the level of maturity of BCM and that the two variables are independent).

To examine whether or not there is an association between the level of maturity of BCM and the age of the organization, the Chi-square test was used. However, since there were 15 cells that have an expected count of less than 5; Fisher's Exact test was used (see table 6.35). The result of the Fisher Exact test shows a statistically significant association (Fisher's Exact value = 24.782,  $p = .003$ , 2-sided).

**Table (6.35): Chi-square test: the level of maturity of BCM by age (n = 89).**

			age					Total
			Up to 10	11-20	21-30	31-40	> 40	
<b>Level of maturity of BCM</b>	BCM covers technical operational aspects of the organization	Count	0	4	0	3	2	9
		Expected Count	1.7	3.3	1.2	1.0	1.7	9.0
	BCM covers technical interruptions across the organization	Count	7	2	0	1	2	12
		Expected Count	2.3	4.4	1.6	1.3	2.3	12.0
	BCM covers socio-technical interruptions across the organization	Count	1	2	1	3	4	11
		Expected Count	2.1	4.1	1.5	1.2	2.1	11.0
	BCM is termed "Strategic oriented"	Count	9	25	11	3	9	57
		Expected Count	10.9	21.1	7.7	6.4	10.9	57.0
Total		Count	17	33	12	10	17	89
		Expected Count	17.0	33.0	12.0	10.0	17.0	89.0

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)	Point Probability
Pearson Chi-Square	30.413(a)	12	.002			
Likelihood Ratio	30.097	12	.003	.005		
Fisher's Exact Test	24.782			.003		
Linear-by-Linear Association	.528(b)	1	.468	.472	.245	.022
N of Valid Cases	89					

a 15 cells (75.0%) have expected count less than 5. The minimum expected count is 1.01.

b The standardized statistic is -.726.

This means that there is a statistically significant association between the level of maturity of BCM and age of the organization (i.e. statistically significant differences do exist between the five categories of age in terms of the level of maturity of BCM and that the two variables are dependent).

To investigate why there was an association between the level of maturity of BCM and age of the organization, a close look at table 6.35 shows that there were large differences in the expected count and the actual count in some of the cells of the table (highlighted for the purpose of illustration). These large differences between the expected count and the actual count may explain why there was an association between the level of maturity of BCM and the age of the organization.

As a result, the research findings showed that there was no association between the level of maturity of BCM and organizational characteristics, such as sector and size. This means that the sector and size had no influence or did not affect the maturity level of BCM in Jordanian organizations; that is to say, the level of maturity of BCM was not determined by these factors. On the other hand, the research findings showed that there was an association between the level of maturity of BCM and the age of the organization. This means that the level of maturity of BCM varied with respect to age i.e. the age of the organization influenced or determined the level of maturity of BCM in Jordanian organizations. This suggests that the older an organization becomes, the more strategic BCM becomes. This is largely because placing BCM in the context of SP requires time to be achieved since it requires continuous and regular training, testing, maintenance and updating of the BCM plans, as well as building BCM in the culture of the organization which might not be successfully achievable in short periods of time.

## 6.5.4 The responsibility for BCM

Respondents from those organizations that practise BCM (n = 89) were requested to identify who is responsible for BCM in their organizations by choosing one of five options. Table 6.36 shows that a vast majority of the responding organizations (75.3%) reported that senior management takes the responsibility for BCM, 15.7% board of directors, 4.5% a BCM team, 3.4% operational staff, and 1.1% operational risk department.

**Table (6.36):** responsibility for BCM (n = 89).

<b>Responsibility for BCM</b>	Frequency	Percent	Valid Percent	Cumulative Percent	Rank
Valid Senior management	67	75.3	75.3	75.3	1
Board of directors	14	15.7	15.7	91.0	2
BCM Team	4	4.5	4.5	95.5	3
Operational staff	3	3.4	3.4	98.9	4
Operational risk department	1	1.1	1.1	100.0	5
Total	89	100.0	100.0		

This finding shows a high level of significance of BCM among executives in Jordanian organizations. This also indicates that the involvement and support of the senior management is significant for the success of BCM. This finding is in line with the recommendations of Vallender (2009), Gibb and Buchanan (2005), and Nosworthy (2000) who argued that BCM should be the responsibility of senior management or the board of directors.

This finding is consistent with the findings of a number of empirical studies of BCM, such as Woodman and Hutchings (2010), Marsh (2008), Woodman (2008), and Woodman (2007) in which the majority of the respondents reported that BCM was the responsibility of senior management followed by the board of directors. It is also consistent with the findings of Witty (2008) – based on a survey conducted by Gartner Inc. in 2007- and the survey presented in the Deloitte Touche Tohmatsu (2002) report.

Both of these studies showed that the majority of the respondents reported that the CEO or another Senior Executive was responsible for BCM. In addition, the Business Continuity Benchmark survey findings, which were published by CPM/KPMG in 2002, based on 624 respondents, showed that 35% of the respondents cited “corporate/general management” as the primary owner of BCM (Cerullo and Cerullo, 2004). Brian Jemelian – the Corporate Vice President, Finance and Administration for Yamaha Corp. of America- reported that BCM requires the involvement of senior management and a Chief Executive as it requires the investment of time and resources (Journal of Risk Finance, 2004).

To examine whether or not there is an association between the responsibility for BCM and sector (i.e. whether or not the two variables are independent), the Chi-square test was used. However, since there were 15 cells that have an expected count of less than 5, Fisher’s Exact test was used (see table 6.37). The outcomes of Fisher’s Exact test show no statistically significant association (Fisher’s Exact value = 9.223,  $p = .705$ , 2-sided).

**Table (6.37): Chi-square test: responsibility for BCM by industry sector (n = 89).**

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)	Point Probability
Pearson Chi-Square	12.771(a)	12	.386	.391		
Likelihood Ratio	11.777	12	.464	.575		
Fisher's Exact Test	9.223			.705		
Linear-by-Linear Association	.769(b)	1	.380	.398	.210	.029
N of Valid Cases	89					

a 15 cells (75.0%) have expected count less than 5. The minimum expected count is .12.

b The standardized statistic is .877.

This means that there is no relationship between the responsibility for BCM and industry sector (i.e. no statistically significant differences between the four categories of sector in terms of the responsibility for BCM and that the two variables are independent).

In order to examine whether or not there is an association between the responsibility for BCM and the size of the organization (i.e. whether or not the two variables are independent), the Chi-square test was used. However, since there were 21 cells that have an expected count of less than 5, Fisher’s Exact test was used (see table 6.38). The results show no statistically significant association (Fisher’s Exact value = 15.826,  $p = .371$ , 2-sided).



**Table (6.38): Chi-square test: The responsibility for BCM by size (n = 89).**

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)	Point Probability
Pearson Chi-Square	17.134(a)	16	.377	.339		
Likelihood Ratio	18.363	16	.303	.303		
Fisher's Exact Test	15.826			.371		
Linear-by-Linear Association	.520(b)	1	.471	.506	.253	.031
N of Valid Cases	89					

a 21 cells (84.0%) have expected count less than 5. The minimum expected count is .06.

b The standardized statistic is .721.

This means that there is no relationship between the responsibility for BCM and the size (i.e. no statistically significant differences exist between the five categories of size in terms of the responsibility for BCM and that the two variables are independent).

To examine whether or not there is an association between the responsibility for BCM and the age of the organization (i.e. whether or not the two variables are independent), the Chi-square test was used. However, since there were 19 cells that have an expected count of less than 5, Fisher's Exact test was used instead. The results show no statistically significant association (Fisher's Exact value = 11.510,  $p = .849$ , 2-sided).

**Table (6.39): Chi-square test: the responsibility for BCM by age (n = 89).**

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)	Point Probability
Pearson Chi-Square	10.920(a)	16	.814	.865		
Likelihood Ratio	12.672	16	.697	.832		
Fisher's Exact Test	11.510			.849		
Linear-by-Linear Association	1.693(b)	1	.193	.198	.109	.016
N of Valid Cases	89					

a 19 cells (76.0%) have expected count less than 5. The minimum expected count is .11.

b The standardized statistic is 1.301.

This means that there is no relationship between the responsibility for BCM and the age of the organization (i.e. no statistically significant differences exist between the five categories of age in terms of the responsibility for BCM and that the two variables are independent).

As a result, the research findings regarding the responsibility for BCM showed that there was no statistically significant association between who takes the responsibility for BCM and organizational characteristics, such as sector, size, and age. In other words, there are no statistically significant differences between who takes the responsibility for BCM in terms of the industry sector, size, and age of the organization in Jordanian organizations. This finding also suggests that senior management responsibility for, involvement, and support of BCM is necessary in almost all cases where BCM is used regardless of the sector, size, or age of the organization.

### 6.5.5 The business areas (i.e. participants) involved in BCM

The respondents from those organizations that practised BCM (n = 89) were asked, on a scale rating from 1 = “not a participant” to 5 = “full participant”, to indicate the level of participation of the different departments in BCM. Another option 0 = “department does not exist” was provided in case a specific department did not exist (e.g. the findings showed that 3 organizations did not have IT departments, 42 organizations did not have risk or business continuity departments, 27 organizations did not have security departments, 4 organizations did not have human resources departments, 36 organizations did not have health and safety departments, 13 organizations did not have public relations departments, and 9 organizations did not have marketing departments). Table 6.40 shows the mean values for the level of participation of various departments in BCM ranked from the highest mean value to the lowest. The table shows that the mean values for three departments was over four, namely, risk or business continuity department, finance department and IT department, and over three for the other departments. This indicates a relatively high participation and involvement of all of these departments in BCM.

**Table (6.40):** The business areas (i.e. participants) involved in BCM (n = 89).

Department	Mean <sup>16</sup>	Rank
Risk or business continuity department	4.47	1
Finance department	4.24	2
IT department	4.07	3
Marketing department	3.80	4
Human resources department	3.68	5
Health and safety department	3.62	6
Public relations department	3.38	7
Security department	3.29	8

<sup>16</sup> The mean is an average of scale of 1 = “not a participant” to 5 = “full participant”.

This finding showed a relatively high level of participation of different departments (i.e. business areas) including the IT, finance, risk and business continuity, security, human resources, health and safety, public relations and marketing in BCM in Jordanian organizations. It also showed that these business areas varied slightly in their level of participation in BCM. This reveals that there was a high level of cross-functional working behind BCM in Jordanian organizations. This finding also provides empirical evidence that the participation of different departments (business areas) is required and is necessary in BCM and that each business area has a particular role in it. It also provides empirical evidence that BCM is less likely to be seen only as an IT process; in contrast, BCM is based on an enterprise-wide involvement that requires input and participation from different business areas in order to develop and maintain a corporate capability of resilience that is based on a mix of various routines and skills, as Herbane et al. (2004) and Msezane and McBride (2002) argued.

These findings are consistent with the findings of a number of empirical studies of BCM, such as those of Woodman and Hutchings (2010), Woodman (2008), Woodman (2007), Strohl Systems (2007), Pitt and Goyal (2004), and Herbane et al. (2004) which found that there appeared to be a substantial degree of cross-functional effort and input participation and involvement from various organizational departments (i.e. business areas) in BCM including: IT, risk management, facilities management, human resources, finance, security, public relations, purchasing/procurement, marketing, sales, production, and health and safety. Therefore, it became evident from the findings of this research, as well as those of earlier studies in the field of BCM, that despite the significant role of the IT function and IT department, BCM is not solely an IT issue; in contrast, it requires participation of various business areas. In another study of BCM with the “People Management” subscribers- the House Magazine of the Chartered Institute of Personnel and Development in the U.K- and the Business Continuity Institute HR business partners, the findings revealed that the participation of the Human Resources Department in BCM was also significant since many organizations rely on people to maintain their value preservation. It is therefore significant that people and their needs are integral to BCM plans (Glendon, 2009).

Spearman's correlation was conducted in order to examine whether or not there exist relationships between the size and age of the organization and the business areas (i.e. participants) involved in BCM. The results of the correlation test shown in table 6.41 indicate no statistically significant relationship exists between the size of the organization and the participants involved in BCM, except for one department –marketing- and that this relationship is negative ( $p = .048$ , correlation coefficient =  $-.222$ ). In addition, table 6.41 shows no statistically significant relationship between the age of the organization and the business areas (i.e. participants) involved in BCM except for two departments; namely, human resources department ( $p = .034$ , correlation coefficient =  $-.231$ ) and marketing department ( $p = .011$ , correlation coefficient =  $-.283$ ).

**Table (6.41):** Correlation between size of the organization and the participants involved in BCM, and age of the organization and the participants involved in BCM ( $n= 89$ ).

Department			size	Age
Spearman's rho	IT department	Correlation Coefficient	.137	-.056
		Sig. (2-tailed)	.210	.606
	Finance department	Correlation Coefficient	-.188	-.204
		Sig. (2-tailed)	.078	.055
	Risk or business continuity department	Correlation Coefficient	.036	-.075
		Sig. (2-tailed)	.811	.617
	Security department	Correlation Coefficient	.154	-.078
		Sig. (2-tailed)	.233	.545
	Human resources department	Correlation Coefficient	-.040	-.231
		Sig. (2-tailed)	.714	.034
	Health and safety department	Correlation Coefficient	-.068	-.150
		Sig. (2-tailed)	.626	.285
	Public relations department	Correlation Coefficient	-.041	-.102
		Sig. (2-tailed)	.724	.381
	Marketing department	Correlation Coefficient	-.222	-.283
		Sig. (2-tailed)	.048	.011

A Kruskal-Wallis test was also conducted to examine whether or not any statistically significant differences exist between industry sectors regarding the business areas (i.e. participants) involved in BCM. The test was conducted for each of the eight departments. The results shown in table 6.42 indicate no statistically significant differences between the four sectors except for two departments; namely, finance (Chi-square value = 9.324,  $p = .025$ ) and health and safety (Chi-square value = 8.247,  $p = .041$ ).

**Table (6.42): Kruskal-Wallis test: the participants involved in BCM by sector (n = 89).**

	IT department	Finance department	Risk or business continuity department	Security department	Human resources department	Health and safety department	Public relations department	Marketing department
Chi-Square	7.217	9.324	4.908	7.554	1.910	8.247	1.897	5.978
df	3	3	3	3	3	3	3	3
Asymp. Sig.	.065	.025	.179	.056	.591	.041	.594	.113

This means that different departments from different organizations from different sectors in Jordan are likely to have a similar level of participation in BCM, except for the abovementioned departments.

As a result, the research findings showed that there was no correlation between the business areas (i.e. participants) involved in BCM and organizational characteristics, such as size and age. This indicates that size and age of the organization did not influence or affect the business areas that are involved in BCM in Jordanian organizations nor affected their level of participation in BCM i.e. different departments participated in BCM regardless of the size or age of the organization, that is to say, organizational characteristics, such as size or age did not determine the business areas involved in BCM. This result is reasonable since an enterprise-wide BCM requires input participation from different areas in order to succeed despite the size or age of the organization. Moreover, the research findings showed that there were no statistically significant differences between the four sectors regarding the business areas (i.e. participants) involved in BCM. This indicates that the business areas involved in BCM did not differ significantly between the four industry sectors in Jordanian organizations.

### 6.5.6 The comprehensiveness of BCM

Respondents from those organizations that practise BCM (n = 89) were asked, on a scale rating from 1 = “not concerned” to 5 = “extremely concerned”, to indicate their concerns about the unfavourable impacts of disasters and crises on the different elements of their organizations. This reflects the comprehensiveness of BCM (i.e. if BCM was used to counteract the unfavourable impacts of disasters and crises on different elements of the organization).

Table 6.43 shows the mean values and ranks for all elements of the organization starting from the highest mean value to the lowest. It shows that the mean for all elements of an organization was relatively high (i.e. over three for one element - suppliers and third parties- and over four for the other elements). This indicates a relatively high level of concern regarding unfavourable impacts of disasters and crises on all elements of the organization, which also indicates that there exists a relatively comprehensive BCM in those organizations.

**Table (6.43):** The comprehensiveness of BCM (n = 89).

Elements of an organization	Mean <sup>17</sup>	Rank
Corporate reputation	4.65	1
Customers	4.44	2
IT systems	4.33	3
Employees	4.33	3
Processes	4.26	4
Infrastructure	4.22	5
Physical assets (premises and facilities)	4.10	6
Suppliers and third parties	3.99	7

<sup>17</sup> The mean is an average of scale of 1= “not concerned” to 5 = “extremely concerned”.

This indicates that BCM was relatively comprehensive in these organizations. Moreover, it was found that the mean values<sup>18</sup> for all of these elements were relatively close to one another, (see table 6.43). This suggests that all of these elements were similarly significant to Jordanian organizations and were covered by the BCM perspective.

This finding is consistent with Herbane et al. (2004) and Msezane and McBride (2002) who highlighted the importance of developing BCM that is capable of covering and coping with the whole range of disruptions that may possibly impact the different elements of an organization. This finding is also consistent with the findings of studies, such as those of Woodman (2008) and Woodman (2007) which showed that the respondents were concerned about protecting various elements of their organizations in their BCM, despite the fact that they were more concerned about IT disruptions. This finding is also consistent with the findings of Pitt and Goyal (2004) which showed that the respondents were concerned about unfavourable impacts of disasters and crises on different elements of their organizations including IT systems; premises and facilities; equipment; processes; and people.

Spearman's correlation was conducted in order to examine whether or not there exist relationships between the size and age of the organization, and the comprehensiveness of BCM for all elements of the organization. The results of the correlation test shown in table 6.44 indicate no statistically significant relationship exists between the size of the organization and the comprehensiveness of BCM except for two elements of the organization; namely, processes (correlation coefficient = .261,  $p = .014$ , 2-tailed) and infrastructure (correlation coefficient = .246,  $p = .020$ , 2-tailed) and that this relationship is positive. In addition, table 6.44 shows no statistically significant relationship exists between the age of the organization and the comprehensiveness of BCM for any of the elements of an organization.

---

<sup>18</sup> The mean is an average of scale of 1 = "not concerned" to 5 = "extremely concerned".



**Table (6.44):** correlation between size of the organization and comprehensiveness of BCM, and age of the organization and comprehensiveness of BCM (n= 89).

Elements of an organization			size	Age
Spearman's rho	IT systems	Correlation Coefficient	.161	.096
		Sig. (2-tailed)	.131	.373
	Employees	Correlation Coefficient	.108	-.159
		Sig. (2-tailed)	.315	.137
	Processes	Correlation Coefficient	.261	.163
		Sig. (2-tailed)	.014	.127
	Infrastructure	Correlation Coefficient	.246	.058
		Sig. (2-tailed)	.020	.591
	Physical assets (premises & facilities)	Correlation Coefficient	.074	-.042
		Sig. (2-tailed)	.491	.695
	Customers	Correlation Coefficient	.083	.001
		Sig. (2-tailed)	.440	.989
	Suppliers and third parties	Correlation Coefficient	.137	-.003
		Sig. (2-tailed)	.199	.978
	Corporate reputation	Correlation Coefficient	.026	-.150
		Sig. (2-tailed)	.809	.159

This means that organizational characteristics, such as size and age did not determine the comprehensiveness of BCM in Jordanian organizations and that the comprehensiveness of BCM was independent of the size and age of the organization.

A Kruskal-Wallis test was conducted to examine whether or not there were significant differences between different sectors regarding the comprehensiveness of BCM. The test was conducted for each of the eight elements of an organization. The results shown in table 6.45 indicate no statistically significant differences exist between the four sectors in terms of the comprehensiveness of BCM except for one element; namely, physical assets (premises and facilities) (Chi-square value = 8.125,  $p = .043$ ).

**Table (6.45): Kruskal-Wallis test:** the comprehensiveness of BCM by sector (n = 89).

	IT systems	Employees	Processes	Infrastructure	Physical assets	Customers	Suppliers and third parties	Corporate reputation
Chi-Square	4.966	5.194	7.008	4.463	8.125	3.701	7.640	.252
df	3	3	3	3	3	3	3	3
Asymp. Sig.	.174	.158	.072	.216	.043	.296	.054	.969

As a result, the research findings showed that there was no statistically significant correlation between the comprehensiveness of BCM and the size of the organization. This finding is consistent with Pitt and Goyal (2004) who did not find a relationship between the size of the organization and the comprehensiveness of BCM. The results also showed that there was no correlation between the comprehensiveness of BCM and the age of the organization. This indicates that regardless of size and age, BCM was developed for the purpose of protecting all elements of an organization from the entire range of potential disasters and crises in Jordanian organizations. It also indicates that size and age of the organization did not determine the comprehensiveness of BCM. The research findings also showed that there were no statistically significant differences between the four sectors in terms of the comprehensiveness of BCM. This indicates that Jordanian organizations from different sectors had BCM in place for the purpose of protecting various elements of an organization and did not differ significantly in terms of the comprehensiveness of BCM.

### 6.5.7 The effectiveness of the BCM approach

Respondents from those organizations that practised BCM (n = 89) were asked, on a scale rating from 1 = “not important” to 5 = “extremely important”, to indicate the importance of a number of activities which reflect the effectiveness of the BCM approach adopted. Table 6.46 shows that the mean values for all activities were relatively high. This reflects a high level of importance of these activities in BCM and shows that these organizations were committed to performing all of these activities as part of their BCM process. It also indicates that there exists a relatively effective approach to BCM in these organizations. In addition, the table shows small differences in the mean values between these activities.

**Table (6.46):** Importance of BCM activities (n= 89).

<b>BCM activities</b>	<b>Mean<sup>19</sup></b>	<b>Rank</b>
Project planning	4.49	1
Create teams and assign roles and responsibilities	4.14	7
Perform risk analysis process	4.18	6
Perform Business Impact Analysis	4.22	4
Develop backup and data recovery strategies	4.24	3
Develop disaster recovery plan	4.19	5
Develop business continuity plan	4.26	2
Periodic testing of the developed plans	3.94	9
Periodic maintenance of the developed plans	3.89	11
Periodic updating of the developed plans	4.03	8
Periodic training of the developed plans	3.92	10

<sup>19</sup> The mean is an average of scale of 1 = “not important” to 5 = “extremely important”.

This finding suggests that these organizations have a similar level of awareness regarding the importance of these activities in BCM. The research findings showed that those organizations that practised BCM in Jordan (n = 89) felt that the whole set of the BCM activities including: project planning; creating teams and assigning roles and responsibilities; performing risk analysis process; performing business impact analysis; developing backup and data recovery strategies; developing disaster recovery plans; developing business continuity plans; periodic testing; periodic maintenance; periodic updating; and periodic training of the developed plans was relatively important to their approach to BCM since the mean for all activities was high. This indicates that there exists a relatively effective approach to BCM in those organizations.

This finding is consistent with the findings of a case study presented in Hernandez (2007). The case study revealed that “Marsh Saldana” – a global financial and consulting services organization that employs more than 24,000 employees and serves organizations in over 100 countries - used an effective BCM approach based on performing the abovementioned BCM activities. This finding is also consistent with another case study presented by Stokes (2008). The case study revealed that “Scottish Power” showed high level of commitment to performing the majority of the abovementioned BCM activities. Alternatively, the study of Pitt and Goyal (2004) identified different commitment levels to performing all BCM activities amongst the respondents in the U.K.

Moreover, the findings showed that Jordanian organizations focused on the training, testing, maintenance and updating activities of BCM. The findings showed that the mean values for these activities were relatively high (i.e. mean = 3.92 for the training activity; mean = 3.94 for the testing activity; mean = 3.89 for the maintenance activity; and mean = 4.03 for the updating activity). This reflects a positive attitude towards these activities and suggests that Jordanian organizations are aware of their significance in BCM, in placing BCM in the context of SP, and in embedding BCM in the organization’s culture. This finding is consistent with the findings of a number of studies of BCM, such as those of Woodman and Hutchings (2010), Woodman (2008), Woodman (2007), and Pitt and Goyal (2004) in which there was some evidence of an increased BCM training, testing, maintenance and updating. On the other hand, in another study of BCM in Indian IT/ITES companies, it was found that less attention has been given to activities, such as training, testing, maintenance and updating of the developed plans (Ernst and Young, 2008b).

Spearman's correlation was conducted to examine whether or not there are relationships between the size and age of the organization, and the effectiveness of the BCM approach adopted. The results in table 6.47 show no statistically significant relationship between the size of the organization and the effectiveness of the BCM approach except for one activity; namely, periodic testing of the developed plans and that this relationship is positive (correlation coefficient value = .278,  $p = .009$ , 2-tailed). In addition, table 6.47 shows no statistically significant relationship between the age of the organization and the effectiveness of the BCM approach for any of the BCM activities.

**Table (6.47):** Correlation between size of the organization and effectiveness of the BCM approach and age of the organization and effectiveness of the BCM approach ( $n= 89$ ).

BCM activities			size	Age
Spearman's rho	Project planning	Correlation Coefficient	.000	-.014
		Sig. (2-tailed)	.999	.897
	Create teams and assign roles and responsibilities	Correlation Coefficient	.028	-.139
		Sig. (2-tailed)	.797	.198
	Perform risk analysis process	Correlation Coefficient	-.001	.002
		Sig. (2-tailed)	.991	.988
	Perform BIA	Correlation Coefficient	.041	.020
		Sig. (2-tailed)	.706	.853
	Develop backup and data recovery strategies	Correlation Coefficient	.055	.031
		Sig. (2-tailed)	.609	.775
	Develop disaster recovery plan	Correlation Coefficient	.149	.002
		Sig. (2-tailed)	.165	.985
	Develop business continuity plan	Correlation Coefficient	.061	.010
		Sig. (2-tailed)	.570	.927
	Periodic testing of the developed plans	Correlation Coefficient	.278(**)	.187
		Sig. (2-tailed)	.009	.082
	Periodic maintenance of the developed plans	Correlation Coefficient	.190	.065
		Sig. (2-tailed)	.076	.545
	Periodic updating of the developed plans	Correlation Coefficient	.103	-.40
		Sig. (2-tailed)	.342	.708
	Periodic training of the developed plans	Correlation Coefficient	.064	-.020
		Sig. (2-tailed)	.551	.850

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

A Kruskal-Wallis analysis was conducted in order to examine whether any significant differences exist between the four sectors regarding the effectiveness of the BCM approach. The test was conducted for all eleven activities. The results of the Kruskal-Wallis analysis in table 6.48 indicate no statistically significant differences between the four industry sectors in terms of the effectiveness of the BCM approach adopted, except for two activities; develop disaster recovery plan (Chi-square = 9.962,  $p = .019$ , 2-tailed) and develop business continuity plan (Chi-square = 8.495,  $p = .035$ , 2-tailed).

**Table (6.48): Kruskal-Wallis test: the effectiveness of the BCM approach by industry sector (n = 89).**

<b>BCM activities</b>	<b>Chi-square</b>	<b>Asymp. Sig.</b>
Project planning	1.342	.719
Create teams and assign roles and responsibilities	1.528	.676
Perform risk analysis process	6.505	.089
Perform business impact analysis	3.893	.273
Develop backup and data recovery strategies	3.317	.345
Develop disaster recovery plan	9.962	.019
Develop business continuity plan	8.495	.035
Periodic testing of the developed plans	7.574	.056
Periodic maintenance of the developed plans	6.957	.073
Periodic updating of the developed plans	6.628	.085
Periodic training of the developed plans	2.644	.456

As a result, the research findings showed that organizational characteristics, such as size and age did not affect the effectiveness of the BCM approach adopted in Jordanian organizations. That is to say, organizations in Jordan were committed to performing all BCM activities, regardless of their size and age. This indicates that Jordanian organizations had a positive attitude towards adopting effective BCM through performing all of these activities, regardless of their size and age. In addition, organizations from different sectors did not differ in their approach to BCM, and that they felt that performing all activities was important to their BCM despite the sector. This also reflects a positive attitude towards BCM since it shows that all those organizations that used BCM from the four sectors in Jordan were adopting a relatively effective approach to BCM through being committed to performing all these potential activities.

### **6.5.8 Interview findings regarding BCM practice in Jordanian organizations**

Respondents were asked to elaborate on the practice of BCM in their organizations and whether or not any further attention was given to particular BCM activities that may be related to their type of business.

Interview findings showed that organizations from different sectors focus on particular activities in their practice of BCM relevant to their type of business. An interview with a respondent from a major local Jordanian bank revealed that there was a greater focus on the development of IT backup and recovery strategies; compliance with international standards, such as the ISO 17799 and Basel II, as well as compliance to the regulations of the Central Bank of Jordan. The respondent stated that:

*“... because almost all banks in Jordan, including our bank, are increasingly transforming all their paper-based operations to electronic operations for the purpose of enhancing customer service and protection, there is a higher focus on IT BCM more than the other business areas,... we comply to international standards, such as the ISO 17799 and Basel II, as well as the regulations of the Central Bank of Jordan as part of BCM good practice”.*

An interview with a leading insurance company in Jordan revealed that the company focuses on the development of re-insurance policies and the establishment of collaborative efforts between multiple insurance organizations as part of their practice of BCM. The respondent stated that:

*“... there is a security and risk reduction policy that aims to prevent/reduce risk by transferring it to other organizations known as re-insurance companies... re-insurance procedures are documented as part of BCM good practice... other risk reduction activities include collaboration with other insurance organizations in order to share financial burdens”.*

Interviews with three industrial companies revealed that there was a keen focus on a number of activities as part of their risk management and business continuity frameworks. It was also noticed that these activities are likely to be practised by many other companies in the same sector, since one respondent mentioned that: *“these activities are very significant to all companies working in industry in Jordan”*. These activities included: the development of preventive continuity and recovery procedures; securing and protecting employees; and the training and education of employees. For instance, a respondent from one company stated that:

*“... since our company is specialised in heavy industries and the manufacturing of iron, a high focus on the human aspect of BCM is made...securing and protecting employees, who are considered one of the most important resources is considered a priority in our BCM programme... preventive procedures are developed in order to reduce impacts of disasters and crises happening, as well as injury to our people... training and education are very significant since the majority of employees work at the industrial plant and are exposed to higher levels of risks compared to those based in the headquarter... therefore they are trained on how to use safety and evacuation procedures, especially when they feel they are endangered”*.

Interviews with companies from the services sector revealed that those companies gave some activities related to BCM a higher level of attention relevant to their type of business. It was found that sustaining close relationships with material suppliers; updating plans; and protecting the company’s reputation are significant. This finding sounds reasonable since service organizations in Jordan form the majority of those registered at the Amman Stock Exchange, and therefore, it becomes necessary for those organizations to maintain their corporate reputation in order to be able to survive in a highly competitive environment where customers can easily switch to other service companies seeking better services. One respondent from a highly reputable transportation company stated that:

*“... our company focuses mainly on the up-dating of the continuity and recovery plans in order to prevent future disasters... the company has experienced a large scale disaster recently. Therefore, a higher focus has been given to the planning for future disasters in order to prevent them happening again and maintain our position in the market; our reputation; and our customers”*.



Overall, the interview findings showed that organizations from different sectors which practised BCM focused on particular aspects of BCM in relation to their type of business. This shows that despite the fact that BCM is usually based on a set of known and common procedures and activities which have to be undertaken, such as those discussed in section 2.3.1, BCM is still a management activity that is based on common-sense and good practice, as Gallagher (2005) noted. Moreover, the interview findings indicated that BCM in Jordanian organizations covers and protects various elements of an organization, such as: employees, corporate reputation, service suppliers, and customers. This supports the findings of the questionnaire in which it was found that BCM in the majority of organizations in Jordan from various sectors covers and protects many aspects of an organization, as was shown in section 6.5.6.

## 6.6 Purpose of strategic planning

### 6.6.1 Questionnaire findings

This section examines the purpose of SP. This analysis is significant as it reveals whether there is a focus on possible links and convergence between SP and BCM in Jordanian organizations. This analysis contributes to the achievement of the third objective of this research, which is to examine the purpose of SP in Jordanian organizations.

The respondents were asked, on a scale where 1 stood for “not important” to 5 which stood for “extremely important”, to describe the importance of SP for each of the organizational purposes shown in table 6.49. The table shows that the mean for all purposes was greater than 3. This indicates that SP helped to achieve various organizational purposes including those which are related to BCM, such as: the identification of various types of risk facing the organization; the scanning of the business environment; ensuring the existence of proactive business continuity planning; and ensuring effective recovery after a disaster or a crisis.

**Table (6.49):** Importance of SP in achieving various organizational purposes (n=110).

Purpose of SP		Mean*	Rank
<b>Purpose 1</b>	Achieving sustainable competitive advantage	4.16	4
<b>Purpose 2</b>	Motivating innovation and creation	3.94	7
<b>Purpose 3</b>	Implementing productive action plans	4.21	2
<b>Purpose 4</b>	Ensuring ongoing growth and success	4.35	1
<b>Purpose 5</b>	Identifying various types of risks facing the organization	4.17	3
<b>Purpose 6</b>	Scanning business environment	3.87	8
<b>Purpose 7</b>	Ensuring the existence of proactive business continuity planning	4.15	5
<b>Purpose 8</b>	Ensuring effective recovery after a disaster/crisis	4.04	6

\* The mean is an average of scale rating from 1 = “not important” to 5 = “extremely important”.

The literature presented in chapter three showed that SP declined in terms of its popularity and influence and faced criticism in terms of its effectiveness during the 1970s and 1980s as it almost failed to deliver many of its expected outcomes. Moreover, the SP approach focused mainly on building offensive organizational capabilities and paid less attention to elements of organizational risk, disaster and crisis preparedness and response that help to build defensive organizational capabilities. Therefore, many organizations started to expand and/or change their conventional SP approaches in order to keep up with the changes to the global business environment and in order to achieve various organizational purposes, such as motivating innovation and creation; ensuring growth and success; developing a sustainable competitive advantage; and implementing productive action plans, as was shown in Al-Shammari and Hussein (2008); Aldehayyat (2006); Kachaner and Deimler (2008); and Whelan and Sisson (1993).

The findings of this research regarding the purpose of SP in Jordanian organizations, showed consistency with the studies of Kachaner and Deimler (2008), Al-Shammari and Hussein (2008), Aldehayyat (2006), and Whelan and Sisson (1993) and revealed that SP was highly important for achieving organizational purposes, such as achieving sustainable competitive advantage; motivating innovation and creation; implementing productive action plans; and ensuring ongoing growth and success of the organization. Furthermore, the research findings expanded on those of earlier studies regarding the purpose of SP. They showed that SP in Jordanian organizations also contributed greatly to achieving other organizational purposes which are related to BCM, such as identifying risks that are likely to threaten the organization; scanning of the business environment; ensuring the existence of proactive business continuity planning; and ensuring effective recovery following a disaster or a crisis.

These findings suggest that there are possible links and convergence between BCM and SP in Jordanian organizations. They also contribute to narrow the gap between the two fields, which subsequently, will help to achieve an integrated framework for BCM and SP. These findings also indicate that SP in Jordanian organizations was important to achieve both; general organizational purposes, as well those purposes which are related to BCM, which subsequently, help to build both offensive and defensive organizational capabilities.

This is consistent with the study of Herbane et al. (2004) who proposed and found that BCM has the potential to be integrated with SP (i.e. SP can incorporate BCM components including business continuity planning and disaster recovery planning). It is also consistent with Foster and Dye (2005), Msezane and McBride (2002) and Malone (1989) who highlighted that failing to address BCM issues in SP is likely to endanger the long-term survival of the organization and is likely to reduce its capability to cope with and manage unexpected disasters and crises. It is also consistent with Ritchie (2004) who proposed that strategic planning's approach to risk, disaster and crisis management can be beneficial for tourism planners and managers since it has the potential to prevent and/or reduce the unfavourable impacts of disasters and crises and helps an organization to recover following such incidents.

Spearman's correlation test was conducted in order to examine whether or not there are relationships between the purpose of SP and the size of the organization; the number of years the organization has been involved in SP; and the age of the organization. The test was conducted for each of the eight organizational purposes.

**Table (6.50):** correlation between the purpose of SP and the size of the organization, the purpose of SP and number of years the organization has been involved in SP and the purpose of SP and the age of the organization (**n=110**).

Purpose of Strategic Planning			Size	Number of years involved in SP	Age
Spearman's rho	<b>Purpose 1</b>	Correlation Coefficient	.071	.070	.020
		Sig. (2-tailed)	.462	.468	.839
	<b>Purpose 2</b>	Correlation Coefficient	-.090	.093	-.015
		Sig. (2-tailed)	.352	.333	.877
	<b>Purpose 3</b>	Correlation Coefficient	.068	.137	.126
		Sig. (2-tailed)	.482	.154	.188
	<b>Purpose 4</b>	Correlation Coefficient	-.078	.180	.001
		Sig. (2-tailed)	.419	.060	.993
	<b>Purpose 5</b>	Correlation Coefficient	-.034	.110	.011
		Sig. (2-tailed)	.728	.251	.907
	<b>Purpose 6</b>	Correlation Coefficient	-.007	.156	.106
		Sig. (2-tailed)	.940	.104	.271
	<b>Purpose 7</b>	Correlation Coefficient	.002	.089	-.092
		Sig. (2-tailed)	.983	.355	.340
	<b>Purpose 8</b>	Correlation Coefficient	.138	.264**	.128
		Sig. (2-tailed)	.150	.005	.184

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

Table 6.50 shows that there was no statistically significant relationship between the size of the organization and the purpose of SP. The table also shows that there was no statistically significant relationship between the purposes of SP and the number of years the organization has been involved in SP except for one purpose; namely, ensuring effective recovery after a disaster or a crisis (correlation = 0.264 at 0.005). The table also shows that there was no statistically significant relationship between the age of the organization and the purpose of SP.

A Kruskal-Wallis test was performed to examine whether or not any statistically significant differences exist between industry sectors regarding the purposes of SP.

**Table (6.51): Kruskal-Wallis test: purpose of SP by sector (n = 110).**

	Purpose 1	Purpose 2	Purpose 3	Purpose 4	Purpose 5	Purpose 6	Purpose 7	Purpose 8
<b>Chi-Square</b>	.724	3.299	.620	.957	1.687	4.551	2.942	3.802
<b>df</b>	3	3	3	3	3	3	3	3
<b>Asymp. Sig.</b>	.868	.348	.892	.812	.640	.208	.401	.284

The results of the Kruskal-Wallis test, shown in table 6.51, indicate no statistically significant differences exist between the four sectors in terms of the purpose of SP for all organizational purposes.

### 6.6.2 Interview findings

The findings of the questionnaire showed that SP in Jordanian organizations from different sectors helped to achieve general organizational purposes, as well as those purposes related to BCM. The findings of the interviews supported the quantitative findings and showed that placing BCM in the context of SP i.e. integrating BCM with SP improved SP and its potential to achieve various organizational purposes, including those related to BCM. The quantitative findings showed that SP in Jordanian organizations helped to achieve the following organizational purposes: achieving sustainable competitive advantage; motivating innovation and creation; implementing productive action plans; ensuring ongoing growth and success of the organization; identifying risks which are likely to threaten the organization; scanning of the business environment; ensuring the existence of proactive business continuity planning; and ensuring effective recovery following a disaster or a crisis.

Qualitative findings showed that SP helped to achieve the following organizational purposes: developing multiple future scenarios; understanding IT and non-IT disruptions; enhancing weaknesses in planning processes; clarifying procedures that have to be undertaken in the event of a disaster or crisis; protecting corporate reputation; enhancing corporate capability to manage disaster and crisis scenarios; providing corporate solutions to risk; enhancing corporate preparedness to risk; enhancing business continuity and disaster recovery planning; and facilitating the scanning of the business environment. These findings suggest that there are possible links and convergence between BCM and SP in Jordanian organizations which subsequently support the quantitative findings obtained by the questionnaire.

For instance, a respondent from a leading national bank stated that:

*“... only recently, BCM has become a strategic entity in the bank and gained higher support from senior management. The bank had a strategic plan that defined the mission, vision, main products and services, and competition techniques. However, this plan did not include necessary procedures that should be taken into consideration at the time of emergency or during disasters and crises. Having a strategic BCM programme has improved our strategic plan and has helped our organization be become more resilient”.*

Another respondent from a leading national insurance company stated that:

*“SP is practised in our organization. However, it focuses mainly on rivalry, market penetration, and attracting new customer categories. Less focus on risk and organizational crisis was made. For this reason, the company decided to link BCM with SP in order to improve our planning processes and secure our position in the market”.*

## 6.7 The steps required in order to place BCM in the context of SP

### 6.7.1 Questionnaire findings

As has been discussed in section 4.6, the literature indicated that in order to place BCM in the context of SP (i.e. in order to achieve an integrated framework for BCM and SP), a number of steps have to be undertaken. This section provides an examination of these steps in the Jordanian context via testing a number of hypotheses. This analysis contributes to the achievement of the fourth objective of this research which is to examine a number of steps that are required in order to place BCM in the context of SP. Each of these hypotheses is accompanied with the corresponding “Null” hypothesis as follows:

**H0:** There is no relationship between the existence of an integrated framework for BCM and SP and BCM being a responsibility of senior management in Jordanian organizations.

**H1:** There is a relationship between the existence of an integrated framework for BCM and SP and BCM being a responsibility of senior management in Jordanian organizations.

In order to examine the first hypothesis (H1), the Chi-square test was used. The test was applied to those organizations that practised BCM (n = 89). However, since there were 6 cells that had an expected count of less than 5; Fisher’s Exact test was used (see table 6.52). The results show no significant association (Fisher’s Exact value = 2.370,  $p = .811$ , 2-sided). That is to say, there was no relationship between the existence of an integrated framework of BCM and SP, and who takes the responsibility of BCM (i.e. the two variables are independent).

**Table (6.52): Chi-square test:** The existence of an integrated framework for BCM and SP and BCM being a responsibility of senior management in Jordanian organizations (n=89).

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)	Point Probability
Pearson Chi-Square	2.642(a)	4	.619	.694		
Likelihood Ratio	3.947	4	.413	.593		
Fisher's Exact Test	2.370			.811		
Linear-by-Linear Association	.931(b)	1	.335	.360	.210	.072
N of Valid Cases	89					

a 6 cells (60.0%) have expected count less than 5. The minimum expected count is .36.

b The standardized statistic is -.965.



The literature indicated that BCM has to be one of the responsibilities of senior management in order to gain a strategic position and be integrated with SP (i.e. placed in the context of SP). For example, Gibb and Buchanan (2006), Gallagher (2005), Foster and Dye (2005) and Herbane et al. (2004) argued that in order to raise BCM to a strategic level and be integrated with SP and be embedded in the organization's culture, it has to be one of the responsibilities of senior management. Empirical studies also showed empirical evidence that in some organizations; senior management was responsible for BCM (e.g. Woodman, 2008; Woodman, 2007).

However, despite the fact that the majority of the respondents (75.3%) reported that senior management was responsible for BCM in their organizations, the output of the Chi-square test indicated that there was no statistically significant relationship between the existence of an integrated framework for BCM and SP, and BCM being a responsibility of senior management ( $p = .811$ , 2-sided). Therefore, the first hypothesis is rejected. A reasonable explanation of why there was no statistically significant association between the existence of an integrated framework for BCM and SP, and BCM being a responsibility of senior management is that it could be taken for granted that BCM is one of the responsibilities of senior management whatever its relationship with SP in Jordanian organizations.

**H0:** There is no relationship between the existence of an integrated framework for BCM and SP and the level of participation of all departments in BCM in Jordanian organizations.

**H2:** There is a relationship between the existence of an integrated framework for BCM and SP and the level of participation of all departments in BCM in Jordanian organizations.

To examine the second hypothesis (H2), the Chi-square test was used. However, since there were some cells that had an expected count of less than 5; Fisher's Exact test was used. The test was applied to those organizations that practise BCM (n = 89). The results shown in table 6.53 show no statistically significant relationship between the existence of an integrated framework for BCM and SP, and the level of participation of all departments in BCM (i.e. the two variables are independent).

**Table (6.53): Chi-square test:** The existence of an integrated framework for BCM and SP and the level of participation of all departments in BCM in Jordanian organizations (n = 89).

Department	Chi-square value	Exact. Sig (2-sided)
IT department	1.420	.390
Finance department	6.133	.148
Risk or Business continuity department	.491	.906
Security department	1.023	.541
Human resources department	4.635	.242
Health and safety department	4.315	.160
Public relations department	.569	.812
Marketing department	.025	.971

The literature indicated that a strategic approach to BCM requires input participation and involvement from all business areas and a cross-functional coordination between different organizational departments (e.g. Golden and Oblinger, 2007; Gibb and Buchanan, 2006; Foster and Dye, 2005; Herbane et al. 2004). Accordingly, the involvement of all business areas in BCM helps to create a continuity culture and helps to embed BCM in the culture of the organization and supports the existence of an integrated framework for BCM and SP. Moreover, empirical studies, such as those of Woodman (2008), Woodman (2007) and Pitt and Goyal (2004) found that there appeared to be a substantial degree of cross-functional effort in BCM and showed that business areas, including IT, production, quality assurance and facilities, also had different roles in BCM in order to be fully integrated and comprehensive.

However, although the research findings showed a relatively high level of participation from various business areas in BCM in Jordanian organizations, the research findings regarding the existence of an integrated framework for BCM and SP and the participation of all departments in BCM showed no significant relationship between the two variables. This means that the second hypothesis is rejected. This indicates that the existence of an integrated framework for BCM and SP did not depend on the level of participation of all business areas i.e. the participation of all business areas did not help to place BCM in the context of SP in Jordanian organizations.

**H0:** There is no relationship between the existence of an integrated framework for BCM and SP and the comprehensiveness of BCM in Jordanian organizations.

**H3:** There is a relationship between the existence of an integrated framework for BCM and SP and the comprehensiveness of BCM in Jordanian organizations.

To examine the third hypothesis (H3), the Chi-square test was used. However, since there were some cells that had an expected count of less than 5; Fisher’s Exact test was used. The test was applied to those organizations that practise BCM (n = 89). The results shown in table 6.54 show that there was no significant relationship between the existence of an integrated framework for BCM and SP, and the comprehensiveness of BCM in Jordanian organizations except for three elements of an organization, namely, employees; infrastructure; and corporate reputation.

**Table (6.54): Chi-square test:** The existence of an integrated framework for BCM and SP and the comprehensiveness of BCM (n = 89).

Element of an organization	Chi-square value	Exact. Sig (2-sided)
IT systems	2.377	.315
Employees	7.370	.032
Processes	2.871	.299
Infrastructure	12.195	.007
Physical assets (premises and facilities)	4.318	.110
Customers	2.911	.225
Suppliers and third parties	5.879	.141
Corporate reputation	9.436	.004

The literature indicated that since the business environment is unpredictable, BCM should be able to counteract a wide set of risks that might affect all elements of an organization which, in turn, will help to raise BCM to a strategic position, since in this case, BCM is concerned with the long-term survival of the entire organization (Gibb and Buchanan, 2006; Foster and Dye, 2005; Herbane et al., 2004). Moreover, Pitt and Goyal (2004) and Herbane et al. (2004) showed that in order to be fully comprehensive and integrated, and in order to increase the potential of having an integrated framework for BCM and SP, BCM should to cover all the elements of an organization including: IT systems, premises, plant equipment, processes and employees. However, although organizations in Jordan that practised BCM were highly concerned with protecting all elements of their organizations in their BCM, the research findings showed that there was no significant relationship between the existence of an integrated framework for BCM and SP and the comprehensiveness of BCM. This means that the third hypothesis is rejected.

**H0:** There is no relationship between the existence of an integrated framework for BCM and SP and the effectiveness of the BCM approach in Jordanian organizations.

**H4:** There is a relationship between the existence of an integrated framework for BCM and SP and the effectiveness of the BCM approach in Jordanian organizations.

To examine the fourth hypothesis (H4), the Chi-square test was used. However, since there were some cells that had an expected count of less than 5; Fisher’s Exact test was used. The test was applied to those organizations that practise BCM (n = 89). The results shown in table 6.55 show that a statistically significant relationship exists between the existence of an integrated framework for BCM and SP, and the effectiveness of the BCM approach adopted in Jordanian organizations for the majority of BCM-related activities (seven activities); namely: project planning; create teams and assign roles and responsibilities; develop backup and data recovery strategies; develop disaster recovery plan; develop business continuity plan; periodic testing of the developed plans; periodic maintenance of the developed plans.

**Table (6.55): Chi-square test:** The existence of an integrated framework for BCM and SP and the effectiveness of the BCM approach adopted (n = 89).

Activity	Chi-square value	Exact. Sig (2-sided)
Project planning	8.600	.017
Create teams and assign roles and responsibilities	14.334	.002
Perform risk analysis process	4.149	.158
Perform business impact analysis	1.966	.164
Develop backup and data recovery strategies	6.531	.050
Develop disaster recovery plan	10.318	.012
Develop business continuity plan	10.106	.008
Periodic testing of the developed plans	8.835	.042
Periodic maintenance of the developed plans	6.772	.034
Periodic updating of the developed plans	3.224	.150
Periodic training of the developed plans	3.429	.250

The literature indicated that in order to raise BCM to a strategic level, an effective approach to BCM has to be adopted which helps to develop a corporate capability of resilience through periodic testing, training, updating and maintaining BCM plans. Such an effective approach, which depends on performing a number of BCM activities, was discussed in section 2.3.2. These activities are: project planning; creating teams and assigning roles and responsibilities; performing risk analysis process; performing BIA; developing backup and data recovery strategies; developing the disaster recovery plan; developing the business continuity plan; testing; training; maintaining and updating the developed plans.

The research findings showed that those organizations that practised BCM showed a high level of importance of these activities in their approach to BCM - which also indicates that those organizations were committed to performing all of these activities. Testing for a relationship between the existence of an integrated framework for BCM and SP and the effectiveness of the BCM approach adopted in Jordanian organizations, revealed that there were statistically significant positive relationships between the existence of an integrated framework for BCM and SP and the majority of BCM activities; namely: project planning; creating teams and assigning roles and responsibilities; developing backup and data recovery strategies; developing disaster recovery plan; developing business continuity plan; periodic testing of the developed plans; and periodic maintenance of the developed plans. Therefore, the fourth hypothesis (H4) will be accepted.

### 6.7.2 Interview findings

The qualitative findings showed that there were various steps/techniques which have been carried out in order to place BCM in the context of SP (i.e. achieve an integrated framework for BCM and SP) in Jordanian organizations. Some of these have been discussed in the literature. These include: assigning the responsibility of BCM to senior management; extending the capacity of BCM to cover all types of disasters and crises; encouraging all departments to get involved in BCM; and compliance to the regulations of the Central Bank of Jordan, as well as international standards regarding the practice of BCM. For instance, a general manager of an industrial company stated that:

*“...a number of procedures have been taken in order to raise BCM to a strategic level in our organization. These include: having BCM as a senior management responsibility; having all departments participate in BCM; expanding the scope of BCM to include all potential disasters and crises that are likely to threaten any critical function... we also comply with the guidelines of the ISO regarding BCM which clarifies the roles and responsibilities of different people”.*

The qualitative findings also showed that further steps have been considered in order to place BCM in the context of SP in terms of an organizational culture and teams in a number of Jordanian organizations. These include: establishing an enterprise-wide awareness of BCM; the active involvement of all employees from all business areas in BCM; providing training for employees regarding BCM procedures; exercising and testing plans; establishing teams that are responsible for the short term and long term issues related to BCM; establishing BCM departments; and the continuous auditing and monitoring of the plans. For instance, one respondent from an industrial organization stated that:

*“... continuous BCM training is provided for all employees on a regular basis”.*

Another respondent from a leading national bank stated that:

*“... in order to embed BCM in the culture of the organization, continuous education and training programmes are delivered to employees from various business areas... specialised teams were also created which are responsible for performing various BCM activities...auditing and monitoring of plans are also significant for the success of BCM in the long term”.*



The interview findings showed that all respondents felt that the training, testing, maintenance and updating of the business continuity and disaster recovery plans were important aspects in their practice of BCM and were also significant in creating and sustaining a healthy and resilient organizational culture. This is consistent with the views of a number of researchers, such as Elliott et al. (2010), Gibb and Buchanan (2006), Gallagher (2003), and Pauchant and Mitroff (1988) who focused on the significant of embedding BCM in the culture of the organization, especially in those organizations running in highly dynamic and fast changing business environments, such as those in Jordan.

Interviews also revealed an interesting finding. A respondent from a service organization stated that:

*“... in order to raise BCM to a strategic level, a BCM department was established. This department employs well-qualified people who can run, steer, and monitor BCM. One of the responsibilities of this department is to allocate budgets and create teams who are responsible for day to day aspects of BCM, as well as long term aspects”.*

## 6.8 Factors influencing the placing of BCM in the context of SP

### 6.8.1 Questionnaire findings

This section provides an analysis of the factors that may possibly have influence on the organizational decision on whether or not to place BCM in the context of SP, including the factors encouraging and the factors discouraging the placing of BCM in the context of SP. This analysis contributes to the achievement of the fifth objective of this research, which is to examine the factors that are likely to drive (i.e. encourage) or obstruct (i.e. discourage) the placing of BCM in the context of SP within Jordanian organizations.

First, the respondents from those organizations that practise BCM (n = 89) were asked, on a scale rating from 1 = “not influential” to 5 = “extremely influential”, to describe the factors that may influence their organization’s decision on whether or not to integrate BCM into SP. Table 6.56 shows the mean value and the rank starting from the most influential factor that was “senior management awareness” to the least influential factor which was “concerns about biological risks (e.g. Avian flu)”.

**Table (6.56):** Factors influencing the integration of BCM with SP (n = 89).

Factor	Mean <sup>20</sup>	Rank
Senior management awareness	4.70	1
Availability of human skills	4.24	2
Availability of budgets	4.10	3
Compliance to corporate governance	4.03	4
The need to recover from disasters	4.02	5
Concerns about maintaining customers	3.91	6
Availability of organizational infrastructure	3.90	7
Concerns about economic risk	3.89	8

<sup>20</sup> Mean is an average of scale rating from 1 = “not influential” to 5 = “extremely influential”.

Availability of time	3.81	9
The need to prepare for unplanned disasters	3.69	10
Compliance to legal acts (e.g. Civil act; BS25999; Basel II)	3.66	11
Concerns about technological risk	3.62	12
Concerns about social risks	3.44	13
Concerns about internal organizational risk	3.33	14
Concerns about the forces of globalization	3.12	15
Concerns about political risk (e.g. terrorism)	3.07	16
Concerns about natural risk	3.02	17
Concerns about biological risk (e.g. Avian flu)	2.30	18

The table shows that the mean value for five factors was greater than four, and greater than three for twelve other factors, but less than three for only one factor; namely, concerns about biological risks (e.g. Avian flu). This indicates a relatively high influence of the majority of these factors on the organization’s decision on whether or not to place BCM in the context of SP.

As discussed in section 3.4, modern organizations are described as “organic” –similar to living creatures- since they are not immune from risks arising from the surrounding environment. Placing BCM in the context of SP may be a result of various organizational concerns regarding the increased risk, disasters and crises that may possibly arise from the business environment (Herbane et al., 2004; Kash and Darling, 1998). Reviewing the literature indicated that there are a number of factors (i.e. concerns and/or pressures) that may possibly influence an organization’s decision on whether or not to place BCM in the context of SP. These factors can be either internal or external with respect to an organization or both.

The research findings showed that the mean value was high for the majority of these factors, except for one factor; namely, “concerns about biological threats e.g. avian flu” (mean = 2.30). This indicates that the organizational decision on whether or not to place BCM in the context of SP in Jordanian organizations was influenced by the majority of these factors. The mean value was greater than 4 for five factors; namely, senior management awareness; availability of human skills; availability of budgets; compliance to corporate governance; and the need to recover from disasters. This indicates that the organizational decision on whether or not to place BCM in the context of SP in Jordanian organizations was mostly affected by these five factors.

This finding is consistent with studies, such as those of Golden and Oblinger (2007) and Herbane et al. (2004) which proposed that business continuity is more likely to be used and is more likely to evolve to a strategic position in those organizations in which the senior management clearly understands the risk of being unprepared for unexpected events and is aware that crisis-related decisions have to be taken by it. It is also consistent with the study of Botha and Solms (2004) who noted that BCM is more likely to be used and is more likely to evolve to a strategic position in large organizations rather than in small and medium ones in which having business continuity plans could prove difficult due to the limited human resources and skills, as well as budgets. Therefore, the availability of human skills and budgets is necessary for raising BCM to a strategic level. Empirical findings, such as those of Woodman and Hutchings (2010), Woodman (2008) and Woodman (2007) also support the idea that BCM may possibly evolve to a strategic position in large organizations more than in small and medium ones. Moreover, this finding is consistent with Foster and Dye (2005) and Herbane et al. (2004) who proposed that a number of external factors, such as the need to recover from disasters, requires that business continuity plans should be much broader than in the past, as well as the need to comply with legislation and regulations, as this could help BCM to be elevated to a higher level of importance within the corporate governance agenda.

The findings revealed that concerns about biological risks had the lowest influence on whether or not to place BCM in the context of SP in Jordanian organizations. This may be due to the fact that in the last few years, Jordan and other countries in the Middle East and North Africa have been working extensively to improve their “Biosecurity and Biosafety”, by introducing a set of new procedures and policies regarding the reduction of

biological risks that are likely to have a negative influence on their societies and organizations. This might explain why Jordanian organizations were less concerned about impacts of biological risks (BBIC, 2009).

Second, the respondents from those organizations that practised BCM, but in which BCM was not placed in the context of SP (i.e. BCM was not integrated with SP in one framework) ( $n = 32$ ), were asked to list the factors that strongly discouraged placing BCM in the context of SP in their organizations (i.e. the factors that caused their organizations not to integrate BCM with SP). Each respondent was asked to list four factors. However, it was permissible for the respondents to list more than four factors if they wished. Table 6.57 shows these factors and their corresponding rank starting from the most discouraging factors (obstacles) which were: “cost of implementation” and “lack of skilled human resources” to the lowest discouraging factors which were: “instability of the region” and “lack of internal coordination”.

**Table (6.57):** Discouraging factors (obstacles) ( $n = 32$ ).

<b>Factor</b>	<b>Frequency<sup>21</sup></b>	<b>Rank</b>
Cost of implementation	27	1
Lack of skilled human resources	27	1
Fear of cultural change	26	2
Lack of support of senior management	15	3
Illusion of invulnerability	14	4
Not necessary at the moment	4	5
Future anticipation process is difficult	4	5
Lack of internal coordination	2	6
Instability of the region	2	6

<sup>21</sup> Frequency represents the number of times a factor was reported (i.e. listed by a respondent).

The research findings showed that there were a number of factors that strongly discouraged Jordanian organizations to place BCM in the context of SP. The most discouraging factors that were reported the most were: cost of implementation; lack of skilled human resources; fear of cultural change; lack of support of senior management; and illusion of invulnerability.

This finding supports the aforementioned discussion; that the lack of human resources and skills, the lack of budgets, and the lack of senior management awareness and support were influential not just on the organization's decision on whether or not to place BCM in the context of SP, but also proved to be real obstacles for placing BCM in the context of SP (i.e. obstacles for achieving an integrated framework for BCM and SP) in Jordanian organizations. Factors, such as fear of corporate cultural change and the illusion of invulnerability were also found to be real obstacles to placing BCM in the context of SP in Jordanian organizations. This finding is consistent with a number of studies into crisis management, such as those of Pollard and Hotho (2006), Preble (1997) and Mitroff et al. (1992), which have proposed that an integration between crisis management - which is considered the roots of BCM and which is very often used interchangeably with BCM- and strategic management, could be hindered by factors such as fear of cultural change and illusion of invulnerability. Moreover, empirical studies into BCM, such as Herbane et al. (2004), also showed that the fear of cultural change in an organization may possibly obstruct BCM to be integrated with SP.

Third, the respondents from those organizations that practised BCM and had BCM placed in the context of SP (i.e. BCM was integrated with SP in one framework) (n = 57) were asked to list the factors that strongly encouraged placing BCM in the context of SP in their organizations (i.e. the factors that caused their organizations to integrate BCM with SP). Each respondent was asked to list four factors. However, it was permissible for the respondents to list more than four factors if they wished.

Table 6.58 shows these factors and the corresponding rank starting from the most encouraging factor (driver) which was: "protect and maintain customers" to the least encouraging factors which were: "enhance budgetary planning"; "availability of organizational infrastructure"; and "social unrest and terrorism".

**Table (6.58):** Encouraging factors (drivers) (n = 57).

<b>Factor</b>	<b>Frequency<sup>22</sup></b>	<b>Rank</b>
Protect and maintain customers	32	1
Minimize risk	30	2
Ensure long-term survival of the organization	29	3
Helps to understand business environment and environmental relations	24	4
Senior management support and involvement	20	5
The need to prepare for unexpected disasters/crises	20	5
Enhance planning process	16	6
Market competition	15	7
Compliance to the regulations of the Central Bank of Jordan	9	8
Protect corporate reputation and image	6	9
Safeguard financial assets	5	10
The need to recover quickly and effectively after a disaster/crisis	5	10
Secure assets	5	10
Current global financial crisis	3	11
The continuous training and learning	3	11
Enhance budgetary planning	2	12
Availability of organizational infrastructure	2	12
Social unrest and terrorism	2	12

<sup>22</sup> Frequency represents the number of times a factor was reported (i.e. listed by a respondent).

Table 6.58 showed that the most encouraging factors that were reported the most were: maintain and protect customers; minimize risk; ensure long-term survival of the organization; helps to understand business environment and environmental relations; senior management support and involvement; the need to prepare for unexpected disasters and crises; and enhances the overall planning processes within the organization.

These findings are consistent with Pollard and Hotho (2006), Preble (1997) and Mitroff et al. (1992) who proposed that crisis management – which can be considered the roots of BCM and which is used interchangeably with BCM (Herbane et al., 2004) - could be integrated with strategic management based on a common set of characteristics between the two. Similarly, BCM and SP can be integrated in one framework because they also share a set of common characteristics including: both BCM and SP are concerned with protecting customers; both BCM and SP are concerned with minimizing risk; both BCM and SP are concerned with ensuring the long-term survival of an organization; both BCM and SP help to understand the business environment and environmental relations; and both BCM and SP require the support and involvement of senior management. In addition, this finding is also consistent with Wong (2009), who concluded that incorporating key BCM principles into strategic management could enhance the quality of planning and will ensure that corporate strategies may be devised with certainty.

Overall, this finding provided empirical evidence from Jordanian organizations, from the banking, insurance, industrial, and services sectors that supports the view that BCM and SP have common ground and can be integrated in one framework in order to develop a defensive corporate capability and improve organizational resilience, which subsequently, will enable organizations to prepare for, respond to, and recover from a wide range of unexpected disasters and crises. This finding is similar to that of Herbane et al. (2004) who showed that there could be common ground and convergence between BCM and SP in their empirical study of six UK-based financial organizations.



## 6.8.2 Interview findings

The interview findings revealed that there were a number of factors which encouraged the placing of BCM in the context of SP (i.e. integrating BCM with SP in one framework) in Jordanian organizations from various industry sectors. Some of these factors were similar to and supported those of the questionnaire findings. Others expand on the questionnaire findings.

The interview findings showed that protecting and maintaining customers was among the most significant factors encouraging the placing of BCM in the context of SP since the Jordanian business environment is becoming more competitive, and therefore, protecting and maintaining customers, as well as their financial assets, will help to ensure their long-term loyalty to an organization. Losing customer information and electronic profiles will result in losing customers and can adversely affect the reputation of the organization. This supports the findings of the questionnaire in which it was found that protecting and maintaining customers was among the factors encouraging the placing of BCM in the context of SP. For instance one respondent from a financial service organization stated that:

*“... one of the most encouraging factors that encouraged our senior management to take the decision to raise BCM to a strategic level was protecting our customers, their financial savings, and their profiles”*

Another respondent from a leading local transportation service providing company, which recently experienced a large scale disaster that affected a large number of customers, also stated that:

*“... a higher focus has been given to the planning for future disasters in order to prevent them happening again and maintain our position in the market; our reputation; and our customers”.*

This respondent also felt that lessons learned from previous disasters and crises, which had negative impacts on the continuity of business operations, corporate reputation, and customer perception was another significant factor that encouraged greatly his organization to raise BCM to a strategic level.

The interview findings also showed that the need to improve anticipation was another encouraging factor. Enhancing an organization's capability to predict, prevent, and recover from disasters and crises, will also help to prevent or reduce future unexpected incidents happening. This finding is similar to and supports the findings of the questionnaire where it was found that enhancing planning processes was one of the significant factors encouraging the placing of BCM in the context of SP. Moreover, the interview findings showed that the rapid increase of the population of Jordan and the number of customers and customer categories encouraged placing BCM in the context of SP. For instance, a respondent from an insurance company stated that:

*"... the organization decided to integrate BCM with SP in order to enhance our future planning and our understanding of potential risks of Jordanian business environment... increasing the number of the population and customers who registered with us recently have also encouraged us to re-evaluate and modify our strategic plan based on the developments and changes taking place in recent days and which are shaping the Jordanian business environment".*

The findings also showed that protecting employees and internal staff was another driver for integrating BCM with SP in many industrial companies since the injury or absence of any employee will affect the smooth running of business operations and will cause significant business disruption. For instance, one respondent from a heavy industry and manufacturing company stated that:

*"... since our company is specialised in heavy industries and the manufacturing of iron, a high focus on the human aspect of BCM is made...securing and protecting employees, who are considered one of the most important resources is considered a priority in our BCM programme... preventive procedures are developed in order to reduce injury to our people... since the majority of employees work at the industrial plant and are exposed to higher levels of risks compared to those based in the headquarter"..*

Finally, ensuring continuous running of machinery was another factor which encouraged the placing of BCM in the context of SP since any disruption to machinery will disrupt the manufacturing process and will negatively affect profitability. This factor was reported by a respondent from an organization that belongs to the industrial sector.

## 6.9 Managers' views of BCM and the placing of BCM in the context of SP

Reporting managers' views on BCM and the placing of BCM in the context of SP was made by providing respondents ( $n = 110$ ) with a number of statements on a scale rating from 1 = "strongly disagree" to 5 = "strongly agree". The following analysis contributes to the achievement of the sixth objective of this research which is to report managers' views on BCM and the placing of BCM in the context of SP.

Table 6.59 shows that the mean was over four for two statements; namely, "BCM will help your organization cope with various types of disasters/crises if it is integrated with SP" and "there is a potential for BCM to be integrated with SP in your organization". The mean was over three for one statement; namely, "BCM is an integral part of the organization's approach to risk". This suggests that the respondents had a positive attitude regarding these statements (i.e. they either agreed or strongly agreed on these statements). The mean value was less than three for one statement; namely, "BCM process is an extra burden to business" since the respondents either disagreed or strongly disagreed on this statement. This also suggests that the respondents had a positive attitude toward BCM since they did not see it as an extra burden to their businesses.

**Table (6.59):** Managers' views of BCM and the placing of BCM in the context of SP ( $n = 110$ ).

<b>Managers' views</b>	<b>Mean<sup>23</sup></b>	<b>Rank</b>
BCM process is an extra burden to business	2.21	4
There is a potential for BCM to be integrated with strategic planning in your organization	4.16	2
BCM will help your organization cope with various types of disasters/crises if it is integrated with strategic planning	4.29	1
BCM is an integral part of the organization's approach to risk	3.87	3

<sup>23</sup> The mean is an average of scale of 1 = "strongly disagree" to 5 = "strongly agree".

These findings show that the respondents from Jordanian organizations had a positive attitude towards BCM and the placing of BCM in the context of SP. In other words, respondents either agreed or strongly agreed that: BCM will help their organizations to cope with various types of disasters and crises if it is integrated with strategic planning; there is a potential for BCM to be integrated with strategic planning in their organizations; and BCM was an integral part of their organizations' approach to risk. Moreover, the respondents either disagreed or strongly disagreed that BCM is an extra burden to business.

These findings are consistent with those of Herbane et al. (2004) who found in their empirical study of six U.K.-based financial organizations that there existed some convergence in the respondents' views regarding the following aspects: first, BCM will help organizations to cope with various types of disasters and crises if it is integrated with strategic planning, as this integration will provide organizations with defensive and offensive capabilities toward their business environments. Second; there is a potential for BCM to be integrated with SP (i.e. BCM can have a strategic role). Third, BCM is an integral part of the organization's approach to risk. Herbane et al. (2004) added that, based on such findings, and based on the convergence of the respondents' views, these findings will increasingly represent the norm in future as greater attention is given to how organizations respond to disasters, crises and business interruptions.

The finding regarding the fourth statement: "Business Continuity Management is an integral part of the organization's approach to risk", where the mean value for this statement was relatively high (3.87), is also consistent with Ernst and Young's 2008 Global Information Security Survey report, in which it was recommended that organizations need to consider BCM as a critical risk management function and as part of an overall corporate approach to risk (Ernst & Young, 2008a). It is also consistent with Quinn (2008) and Krell (2006) who noted that risk managers are increasingly considering BCM as an integral part of overall enterprise risk management and risk management strategy. The finding of the fourth statement is also consistent with the findings of the First European wide BCM survey conducted by Marsh, where it was found that 75% of respondents thought that BCM was an integrated part of their organizations' approach to risk (Marsh, 2008).

The research findings showed that the majority of the respondents believed that BCM was not an extra burden to their businesses (mean value was 2.21). This reflects a high level of awareness regarding the importance of the role of BCM. This finding is similar to the finding of the survey conducted in the Middle East and presented by Zawya, which showed that 72% of the organizations in the Middle East had BCM (i.e. used BCM). This also reflects a relatively high awareness regarding the importance of BCM in a region where BCM is a relatively new concept and field of practice (Zawya, 2009). This finding also indicates that despite the fact that BCM may require extra resource investment and spending on training, testing, updating, and maintaining of the continuity plans, as Golden and Oblinger (2007) noted, and despite that Pitt and Goyal (2004) found that some organizations did not implement business continuity due to the insufficiency of resources, managers of Jordanian organizations recognized that BCM has a significant organizational value and should not be considered as an extra burden to business. This reflects a positive attitude towards the significance of BCM and a positive understanding of its role in counteracting organizational risk.

In order to investigate whether or not there were statistically significant differences in managers' views of BCM and the placing of BCM in the context of SP in terms of their backgrounds (i.e. respondent titles); a Kruskal-Wallis Test was performed. This analysis is significant as it reveals whether or not respondents' backgrounds were influential to their opinions. It also identifies whether or not general managers' views are different from those of other respondents, such as financial managers, who represent the largest proportion of the respondents. The results of the Kuskal-Wallis Test are shown in table 6.60.

**Table (6.60): Kruskal-Wallis Test: respondent views in terms of their backgrounds.**

	<b>Statement 1</b>	<b>Statement 2</b>	<b>Statement 3</b>	<b>Statement 4</b>
Chi-Square	3.237	6.302	4.932	14.865
df	9	9	9	9
Asymp. Sig	.954	.709	.840	.095

The results of the Kruskal-Wallis test show that there are no statistically significant differences in managers' views of BCM and the placing of BCM in the context of SP in terms of respondent backgrounds (i.e. respondent titles) for all four statements. This suggests that respondent backgrounds had no influence on their opinions regarding BCM and the placing of BCM in the context of SP. It also suggests that there are no statistically significant differences between general managers and financial managers in terms of their perception of BCM and the placing of BCM in the context of SP. This also indicates that these statements were perceived almost identically by all respondents from different backgrounds.

Since the responding organizations belong to different industry sectors (e.g. banking, insurance, services, and industrial), it becomes necessary to summarise the extent to which industry sector was influential on the variables being investigated in this research. This also responds to calls of researchers, such as Herbane et al. (2004), who have argued that further research on the strategic role and nature of BCM has to be undertaken using organizations from different sectors (i.e. further research on the influence of factors, such as industry sector is required). Table 6.61 summarises the influence of industry sector on the variables which were examined in this research.

**Table (6.61):** summary of the influence of industry sector on the variables examined in this research.

<b>Variables</b>	<b>Association/ differences</b>
Use of BCM vs. Industry sector	Association exists
Person/groups conducting BCM vs. Industry sector	No association
Duration for which BCM has been practised vs. Industry sector	Association exists
Level of maturity of BCM vs. Industry sector	No association
Responsibility for BCM vs. Industry sector	No association
Business areas i.e. participants involved in BCM vs. Industry sector	No differences between sectors
Comprehensiveness of BCM vs. Industry sector	No differences between sectors
Effectiveness of the BCM approach vs. Industry sector	No differences between sectors
Purpose of strategic planning	No differences between sectors

Despite the fact that 50% of the surveyed organizations belong to the services sector, 27.3% belong to the industrial sector, 12.7% belong to the insurance sector, and 10% belong to the banking sector, these variations in the percentages of responding organizations in terms of industry sector seemed to have little influence on the variables being examined in this research. In other words, industry sector had no significant association with variables, such as person/groups conducting BCM; level of maturity of BCM; and responsibility for BCM. In addition, no significant differences exist between industry sectors in terms of business areas (i.e. participants involved in BCM; comprehensiveness of BCM; effectiveness of the BCM approach; and purpose of strategic planning in Jordanian organizations). The findings showed that there was a statistically significant association in two cases only; between the use of BCM and industry sector, and between the duration for which BCM has been practised and industry sector. In other words, it was found that the use of BCM was more common in banking and insurance companies in Jordan (i.e. there is a keen focus on the use of BCM in the banking and insurance organizations), and that organizations from different sectors varied in terms of the duration for which BCM has been practised.

The fact that industry sector was not influential for the majority of the variables examined in this research can be considered a positive sign and suggests that organizations from different sectors practised BCM similarly to a certain extent, i.e. the research findings showed that the majority of Jordanian organizations from different sectors had their internal employees conducting BCM; considered BCM as a strategic process; had senior management taking responsibility for BCM; had various business areas involved in BCM; had all elements of the organization covered and protected by BCM; and had a relatively effective approach to BCM, as was shown in section 6.5.



## **6.10 Linking the research conceptual model with the research findings**

It is instructive at this stage to check the extent to which the research conceptual model (figure 4.1) which was developed based on the literature review, fits with the research findings, and the extent to which the steps that were introduced in the conceptual model matches the research findings (see also figure 6.8). This would help to further clarify the conceptual model, and reveal whether or not an integrated framework for BCM and SP has been achieved in Jordan.

The literature review indicated why the fields of BCM and SP have evolved in parallel. It also discussed the rationale and the benefits that can be achieved from placing BCM in the context of SP. A key benefit is, adding a defensive capability for mitigating organizational risk, disasters and crises or lessening their impact if they do occur to SP's offensive focus on rivalry and market penetration in order to make SP more comprehensive and thorough, and in order to overcome SP's vulnerability. The findings of the research showed that there is potential for common ground and convergence between BCM and SP.

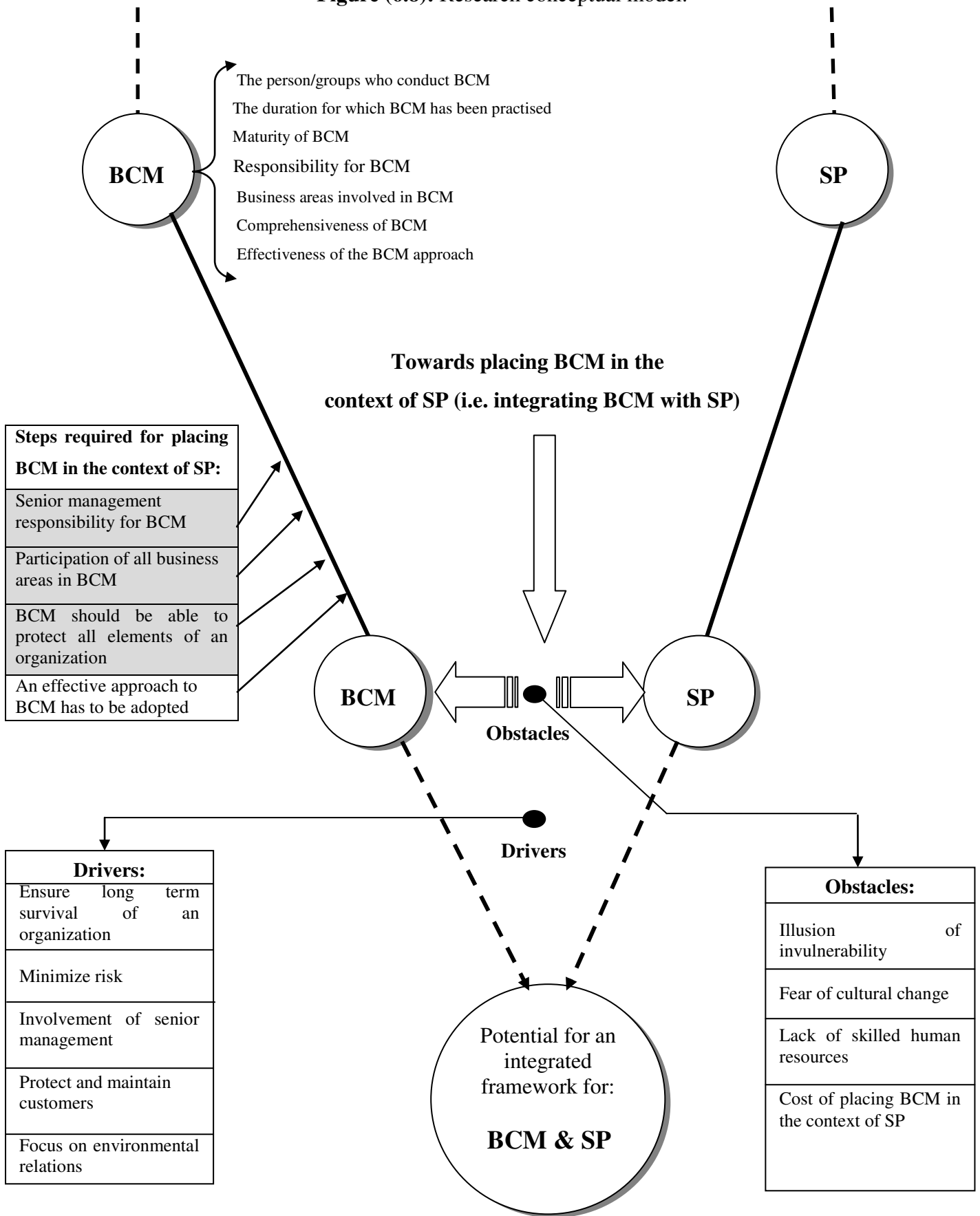
The research findings identified that the majority (64%) of the responding organizations that practised BCM in Jordan reported that BCM has a strategic orientation. The vast majority of the responding organizations (75.3%) reported that senior management takes the responsibility for BCM. The findings also showed that BCM was an enterprise-wide process that is practised by various departments within the Jordanian organization and that BCM covers all elements of the organization. The findings also showed that BCM plans were trained, tested, maintained and updated which, in turn, helps to embed BCM in the culture of the organization. The findings regarding the purpose of SP also showed that SP helped to achieve organizational purposes that are related to BCM, such as: identifying risks that are likely to threaten the organization; scanning of the business environment; ensuring the existence of proactive business continuity planning; and ensuring effective recovery following a disaster or a crisis. This also helps to bridge the gap between BCM and SP.

The literature review showed that there were four issues which reflect the degree to which BCM has been placed in the context of SP; namely, the senior management responsibility for BCM; the participation of all business areas in BCM; the comprehensiveness of BCM (i.e. the ability of BCM to protect all elements of an organization); and the effectiveness of the approach to BCM (i.e. the level of effectiveness of the BCM approach adopted). The findings of the research showed that one of these steps; namely, the effectiveness of the BCM approach adopted helped to place BCM in the context of SP in Jordanian organizations. The other three steps shown in figure 6.8 (also shaded for the purpose of illustration and as a modification to the conceptual model presented in figure 4.1), did not help to place BCM in the context of SP in Jordanian organizations. However, despite the fact that the statistical analysis did not provide evidence that these three steps helped the placing of BCM in the context of SP, 51.8% of the surveyed organizations in Jordan, that have already made BCM an integral part of their SP, reported that these efforts can result in strategic advantages for their organizations.

Regarding the factors discouraging and the factors encouraging the placing of BCM in the context of SP, the literature indicated that among the discouraging factors, there are: illusion of invulnerability; fear of cultural change; lack of skilled human resources; and the cost of placing BCM in the context of SP. Among the encouraging factors, there are: ensuring long-term survival if the organization; minimizing risk; involvement of senior management; protecting and maintaining customers; and the focus on environmental relations. The research findings revealed that the same factors presented in the literature were found to be obstacles to the placing of BCM in the context of SP. The research findings also revealed that the same factors presented in the literature were found to be driving factors for placing BCM in the context of SP. However, despite the fact that there were a number of factors that discouraged the placing of BCM in the context of SP, 51.8% of Jordanian organizations were able to achieve an integrated framework for BCM and SP.

Overall, it can be concluded, therefore, that the research findings fit with the research conceptual model, which was developed based on the literature review. A concluding remark, achieving an integrated framework for BCM and SP aims to combine the offensive capability of SP with the defensive capability of BCM in order to improve the organizational capability of resilience in the face of risk, disasters and crises.

**Figure (6.8):** Research conceptual model.



## **6.11 Summary**

In this chapter, a presentation, analysis, and discussion of research findings was undertaken in relation to the research objectives and literature. The chapter began with a description of the respondent and organization characteristics followed by a check for non-response bias which showed that there was no statistically significant difference between respondents and non-respondents with respect to industry category (type of business).

Next, an investigation of the use of BCM and the existence of an integrated framework for BCM and SP was carried out which showed that a vast majority of the surveyed organizations in Jordan had BCM. 51.8% of the surveyed organizations had BCM placed in the context of SP.

Next, an analysis and discussion of the practice of BCM including: the person/groups conducting BCM; the duration for which BCM has been practised; the maturity of BCM; the responsibility for BCM; the participants involved in BCM; the comprehensiveness of BCM; and, the effectiveness of the BCM approach adopted in Jordanian organizations were made. This analysis revealed that Jordanian organizations differ to a certain extent in their practice of BCM.

Next, an analysis and discussion of the purpose of SP in Jordanian organizations were made and revealed that SP was important for achieving various organizational purposes including those that are related to BCM.

Next, the steps that are required in order to place BCM in the context of SP were examined in the context of organizations in Jordan.

Next, an examination of the factors that discouraged and encouraged Jordanian organizations from placing BCM in the context of SP were examined. This analysis revealed that there were various factors that either discouraged or encouraged Jordanian organizations to place BCM in the context of SP.

Finally, managers' views of BCM and the placing of BCM in the context of SP were reported and discussed. This revealed an overall positive attitude toward BCM and the placing of BCM in the context of SP in Jordanian organizations.

# **CHAPTER**

# **7**

## **CONCLUSIONS**

## Contents

7.1 Introduction	246
7.2 Summary of the key findings of the research	246
7.2.1 Use of BCM and the existence of an integrated framework for BCM and SP	246
7.2.2 The practice of BCM	247
7.2.3 Purpose of strategic planning	247
7.2.4 The steps required in order to place BCM in the context of SP	248
7.2.5 Factors influencing the placing of BCM in the context of SP	248
7.2.6 Managers' views of BCM and the placing of BCM in the context of SP	248
7.3 Contributions to knowledge	249
7.4 Limitations of the research	252
7.5 Areas for further research	253
7.6 Recommendations for organizations arising from the research findings	255

## **7.1 Introduction**

This chapter is divided into five sections. Section 7.2 provides a summary of the key findings which emerged from the data analysis and the discussion of the findings. Section 7.3 presents the contributions to knowledge made by this research. The limitations of the research are discussed in section 7.4. Section 7.5 suggests areas for further research. Lastly, section 7.6 provides recommendations for organizations drawn from the research findings.

## **7.2 Summary of the key findings of the research**

This section provides a summary of the key findings of this research which relates to the use of BCM and the existence of an integrated framework for BCM and SP in Jordanian organizations (relating to the first objective of this research); the practice of BCM (relating to the second objective); the purpose of SP (relating to the third objective); the steps required in order to place BCM in the context of SP (relating to the fourth objective); the factors encouraging and discouraging placing BCM in the context of SP (relating to the fifth objective); and managers' views of BCM and the placing of BCM in the context of SP (relating to the sixth objective of this research).

### **7.2.1 The use of BCM and the existence of an integrated framework for BCM and SP**

The research findings revealed that the majority of the surveyed organizations in Jordan (i.e. 80.9%) used BCM. The rest of the surveyed organizations (i.e. 19.1%) did not use BCM at all. Of those that had BCM, 64% (i.e. 57 organizations) placed BCM in the context of SP. This represents 51.8% of the entire sample size. This means that approximately half of the surveyed organizations in Jordan had BCM placed in the context of SP (i.e. BCM was integrated with SP in one framework). This suggests that there is common ground between BCM and SP and that BCM can be placed in the context of SP (i.e. BCM can be integrated with SP in one framework). By contrast, 48.2% of the surveyed organizations did not have BCM placed in the context of SP (i.e. there was no evidence of the existence of an integrated framework for BCM and SP) for a variety of reasons.

### **7.2.2 The practice of BCM**

The research findings showed that those organizations that practised BCM in Jordan (i.e. 80.9%) differ to some extent in their practice. However, despite these differences in their practice of BCM, this percentage (i.e. 80.9%) suggests that the majority of Jordanian organizations were aware of BCM and its corporate significance in counteracting organizational risk and impact of disasters, crises and business interruptions. The research findings revealed that the majority of those organizations that had BCM, conducted it using mainly internal employees and external consultants; had been practising BCM for more than five years; had senior management responsible for BCM; had various business areas involved in BCM to a greater or lesser extent; had all organizational elements covered to a greater or lesser extent by their BCM; and had been committed to performing all BCM activities to a greater or lesser extent.

### **7.2.3 Purpose of strategic planning**

The research provided empirical evidence that SP in Jordanian organizations is important for achieving various organizational purposes, such as: achieving sustainable competitive advantage; motivating innovation and creation; implementing productive action plans; and ensuring ongoing growth and success of an organization. A crucial finding was that SP was also important for achieving organizational purposes related to BCM, such as: identifying various types of risks facing the organization; scanning the business environment; ensuring the existence of proactive business continuity planning; and ensuring effective recovery after a disaster or a crisis. This provided empirical evidence of the purpose of SP and possible links with risk and BCM. It also provided empirical evidence of some convergence of BCM and SP. This finding is consistent with what Herbane et al. (2004) found in their empirical study of six U.K. financial organizations in which they observed some convergence of business continuity and strategy in terms of providing organizations with the capabilities of resilience and continuity towards their competitive business environments.



#### **7.2.4 The steps required in order to place BCM in the context of SP**

The critical finding of this research regarding the steps required in order to place BCM in the context of SP (i.e. in order to achieve an integrated framework for BCM and SP) was that those steps had no statistically significant relationship with the existence of an integrated framework for BCM and SP in Jordanian organizations, except for one step; namely, the effectiveness of the BCM approach adopted. This indicates that the approach to BCM adopted in Jordanian organizations has the potential to help to achieve an integrated framework for BCM and SP, in particular, through continuous training, testing, maintenance and updating of the plans.

#### **7.2.5 Factors influencing the placing of BCM in the context of SP (obstacles and drivers)**

The critical finding here is that there were a number of factors that influenced the organizational decision whether or not to place BCM in the context of SP (i.e. to achieve an integrated framework for BCM and SP). The factors that were found to be obstacles in some Jordanian organizations were: cost of implementation; lack of skilled human resources; fear of cultural change; lack of support of senior management; and illusion of invulnerability. On the other hand, the research results showed that there were a number of factors that encouraged Jordanian organizations to place BCM in the context of SP. These were: to protect and maintain customers; to minimize risk; to ensure long-term survival of the organization; to help to understand the business environment and environmental relations; senior management support and involvement; and the need to prepare for unexpected disasters and crises.

#### **7.2.6 Managers' views of BCM and the placing of BCM in the context of SP**

The results showed that managers from Jordanian organizations had positive views regarding BCM and the integration of BCM with SP. Overall, they either agreed or strongly agreed on the following statements: "There is a potential for BCM to be integrated with strategic planning in your organization"; "BCM will help your organization cope with various types of disasters/crises if it is integrated with strategic planning"; and "BCM is an integral part of the organization's approach to risk". Moreover, they felt that BCM is not an extra burden to business.

### **7.3 Contributions to knowledge**

This research has provided a number of contributions:

Firstly, this study responds to calls from a number of BCM researchers, such as Wong (2009), Foster and Dye (2005), and Herbane et al. (2004) by highlighting the enterprise-wide role and significance of BCM and what it encompasses with empirical evidence from organizations from different sectors, including the banking, insurance, industrial and services sectors.

Secondly, this study expands on previous research and empirical studies of BCM by examining a wide range of variables, including the practice of BCM, the steps required in order to place BCM in the context of SP, and the factors influencing the placing of BCM in the context of SP, in relation to organizational characteristics, such as size, age, and sector.

Thirdly, this study has examined the practice of BCM and its strategic significance and role in a new context. The majority of empirical studies in the field have been conducted in the U.K., U.S., and Europe (e.g. Woodman and Hutchings, 2010; Woodman, 2008; Marsh, 2008; Woodman, 2007; Herbane et al., 2004; Pitt and Goyal, 2004; and Lee and Harrald, 1999), while little empirical research has been undertaken in the Middle East (e.g. Zawya, 2009), and non has been undertaken in Jordan.

Fourthly, this research has discussed the rationale and significance of placing BCM in the context of SP and has examined the potential for placing BCM in the context of SP (i.e. achieving an integrated framework for BCM and SP). Consequently, this contributes to bridging the gap between the field of organizational risk and the field of SP and helps to build common ground between BCM and SP and a possible convergence of the two.

Fifthly, this research has provided empirical evidence of BCM as an enterprise-wide process. It has showed that organizations in Jordan from different sectors, which practised BCM, had their internal departments participated and involved in BCM. It also showed that the majority of those organizations that practised BCM saw it as strategic rather than being functional or operational process. This supports Herbane et al.'s (2004) proposition who argued that BCM has the potential to have an enterprise-wide and strategic role rather than being purely functional and operational.

Sixthly, this study provided empirical evidence that BCM is not only limited to the IT function or merely practised by the IT department. It showed that BCM covered all elements of an organization, not only the technical and system problems. This helps to expand the scope of BCM, which for many years, was focused on the IT side of continuity. This also supports what a number of authors have proposed that the involvement of various business areas and cross-functional efforts are required for BCM to succeed (see section 4.4.e).

Seventhly, this research used questionnaires and interviews to collect primary data in order to develop an understanding of BCM and the significance of placing BCM in the context of SP. This is considered a contribution to knowledge since every time a social scientist collects primary data, a new contribution to the overall social knowledge is made (Hox and Boeije, 2005).

Eighthly, since this research is the first one conducted in Jordan, which looks for the strategic significance of BCM and the significance of placing BCM in the context of SP, it revealed that Jordan and its organizations are, to some extent, special in terms of the use of BCM. Organizations in Jordan increasingly and rapidly realize the value of a holistic and strategic approach to BCM, which includes clearly defined activities, such as: project planning; creating teams and assigning roles and responsibilities; performing risk analysis and BIA; developing backup and data recovery strategies; developing the disaster recovery plan; developing the business continuity plan; and testing; training; maintaining; and updating the developed plans.

Ninthly, this research has helped to understand the nature of organizational culture in Jordanian organizations and their approach to coping with organizational risk and crises. The research revealed that organizational culture in the Jordanian organizations is, to a certain extent, healthy and resilient since it was found that 80.9% of the surveyed organizations had BCM and 51.8% had BCM placed in the context of SP (i.e. BCM was embedded in those organizations' culture and planning processes). It also revealed that a vast majority of Jordanian organizations are highly concerned with the training, testing, maintenance and updating of the business continuity plans which, in turn, help to make and keep BCM an ongoing process and help to spread a culture of continuity and resilience through the entire organization and all its internal departments. Therefore, and based on this discussion, it could be argued that despite the fact that Jordanian

organizations are considered part of Arab organizations and that organizational culture in Jordan is also an inseparable part of the Arab culture, Jordan has an advantage, which some other Arab countries do not have, that of being able, to a certain extent, to adapt to the surrounding business environment as a result of this healthy and resilient culture which has been acquired as a result of placing BCM at a strategic level and embedding BCM in the culture of the organization.

Respondents seemed to understand that BCM is not just about technology and averting disasters. They appreciate that organizational benefits can accrue, such as: maintaining and protecting customers; minimizing risk; ensuring long-term survival of the organization; understanding the business environment; preparing for unexpected disasters and crises; enhancing planning processes; and safeguarding assets. With a high-level business environment uncertainty and risk across the Middle East, these can be crucial in allowing organizations to take advantage of new opportunities, while maintaining customers and corporate reputation secured.

Yet, there is still a considerable percentage of the surveyed organizations in Jordan (i.e. 19.1%) that did not practise BCM at all. They need to devote more time and organizational resources to assess their vulnerabilities, develop, and use BCM. This is not alarming though. After all, it was clear from the research findings, that many organizations in Jordan have made considerable achievements in the field of BCM in the last few years.

Overall, this research makes one step towards research that contributes to the development of an understanding of BCM as a strategic process which has suffered in the past from poor planning across the organization and placing its ownership with the wrong people, and which for too long was limited to the functional and operational levels, thus denying itself its highest levels of influence, and which is currently facing a number of challenges including: lack of understanding amongst the general public; lack of executive experience of crisis and disaster situations; and the ignorance of executives due to distraction by more pressing concerns and activities (Roberts, 2008; Royds, 2006; and Krell, 2006).

## 7.4 Limitations of the research

This research has the following limitations:

- The research is descriptive, cross-sectional, and was based on a survey strategy. Although this methodology helped to fill some of the major gaps in the earlier literature and to achieve the objectives of the research, it did not provide the opportunity to explore in more depth some of the areas related to BCM and the significance of placing BCM in the context of SP. Future research can be conducted using different methodologies that employ in-depth types of study and which focus on a smaller number of organizations and respondents.
- Although the researcher made assurances regarding the anonymity/confidentiality of respondents, their organizations and the data collected via the questionnaires and the interviews, some of the respondents were still concerned and/or sceptical regarding anonymity/confidentiality issues and giving out information. As a result, the researcher felt that in some cases, the respondents showed less willingness to disclose some information which they perceived as sensitive and in some other cases the respondents were worried about potential consequences for responding to an item thus, limiting their answers to the key issues and skipping details.
- Despite the fact that the researcher attempted to contact primarily General Managers for the purpose of data collection, it was difficult to achieve this task for all organizations. A number of general managers apologized for not being able to complete the questionnaire for different reasons. Nevertheless, in the case when the general manager did not participate in the data collection, other key managers who were responsible for BCM and/or SP took part in the questionnaire and the interviews.
- The data obtained from the questionnaires suggested the use of non-parametric statistics, for the reasons discussed in the methodology chapter. Non-parametric statistics, however, do have some disadvantages. For instance, they are less powerful compared to parametric statistics and sometimes less likely to detect differences that may possibly exist between groups. Nonetheless, where one or more of the conditions under which parametric statistics have to be used is violated, non-parametric statistics can be used (Pallant, 2007).

## 7.5 Areas for further research

Although this research has contributed to the understanding of BCM and the significance of placing BCM in the context of SP, it has prompted the need for further research. Future research should focus on a number of issues:

- This study focused on a number of aspects of BCM practice, such as the person or groups who conduct BCM; the duration for which BCM has been practised; the maturity of BCM; the responsibility for BCM; the business areas (i.e. participants) involved in BCM; the comprehensiveness of BCM; and the effectiveness of the BCM approach in the listed organizations in Jordan (i.e. Public Limited Companies). Further research can focus on the practice of BCM within other types of organizations, such as family owned and government organizations in Jordan.
- It was found that there have been very few theoretical studies, as well as empirical research, that focus on the practice of BCM including the person or groups who conducts BCM; the duration for which BCM has been practised; the maturity of BCM; the responsibility for BCM; the business areas (i.e. participants) involved in BCM; the comprehensiveness of BCM; and, the effectiveness of the BCM approach in relation to organizational characteristics, such as size, age, and sector. Therefore, future research is needed with a greater focus on the relationship between the practice of BCM and organizational characteristics.
- This research showed that there is potential for common ground between BCM and SP and provided a closer look at the factors encouraging and discouraging the placing of BCM in the context of SP. Further research is required in order to demonstrate how physical integration between BCM and SP can be implemented.
- Regarding the managers' views, the mean value for the fourth statement: "BCM is an integral part of the organization's approach to risk" was 3.87. This indicated that the respondents felt that BCM was an integral part of their organization's approach to risk. Therefore, further research is required in order to provide deeper insight on how BCM complements and/or collaborates with other approaches to risk, for instance, risk management and scenario planning within an organization.

- Foster and Dye (2005) and Herbane et al. (2004) argued that business continuity should no longer be constrained to disaster recovery, IT, or a matter of concern to only one department. On the contrary, it should be about building an overall corporate capability of resilience. Therefore, further research should pay more attention to this broader perspective of BCM which is required to elevate BCM to a strategic position, rather than seeing it as purely functional or operational activity. Future research should also focus on the role of senior managers in supporting the placing of BCM in the context of SP.
- Placing BCM in the context of SP requires extensive efforts in order to build and spread a continuity culture within the culture of the organization, which in turn, requires much training and testing of the BCM plans. Training and testing, as was discussed in the literature, can determine the success or failure of BCM. Therefore, future research could be centred on developing an understanding of the significance of training and testing in BCM and on the development of the most effective and efficient training and testing techniques and frameworks.

Overall, much remains to be learned about BCM and its strategic significance. It is hoped that this research has made a step forward towards the understanding of BCM and the significance of placing BCM in the context of SP and will stimulate risk and strategy researchers and practitioners alike to further examine what might be constructive and fruitful areas of research in this field.

## **7.6 Recommendations for organizations arising from the research findings**

This section provides recommendations for organizations based on the findings that emerged from the research. It is hoped that these recommendations will contribute to a better understanding and development of BCM in a strategic context.

- The results showed that 41.8% of Jordanian organizations conduct BCM using both internal employees and external consultants. However, there is still a large percentage (i.e. 37.3%) of Jordanian organizations that conduct BCM using only internal employees. Despite the benefits that can be gained from developing in-house BCM, it is recommended that Jordanian organizations make use of external consultants whose experience is likely to enhance BCM by bringing new perspectives and speeding up the BCM process, as Gallagher (2003) noted.
- Based on the research findings, it is recommended that Jordanian organizations should draw more attention to the following issues that can help to raise BCM to a strategic level and support the existence of an integrated framework for BCM and SP. These are: BCM as a responsibility of senior management; the participation of all business areas in BCM; the comprehensiveness of BCM; and the effectiveness of the BCM approach. Jordanian organizations should improve their understanding of the significance of these issues in order to achieve an integrated framework for BCM and SP.
- The research results showed that one of the main obstacles to placing BCM in the context of SP was the illusion of invulnerability- the belief that there is no need to pursue any course of action since the organization is not exposed and/or is unlikely to be exposed to serious risks. This was reported 14 times. The recommendation here is that organizations should make extra efforts towards their vulnerability assessment and analysis in order to improve their understanding of their weaknesses which, in turn, will stimulate the development of further actions and will encourage the placing of BCM in the context of SP.



- Based on their study of BCM in six U.K. financial organizations, Herbane et al. (2004) recommended that organizations should pay more attention to how they respond to risk, disasters, crises and business interruptions through having a strategic-level BCM (i.e. through placing BCM in the context of SP). They believed that this should represent the norm in future in many organizations. On the basis of the results of the study, it is recommended that Jordanian organizations should pay more attention to how they should respond effectively to risk, disasters, crises, and business interruptions, by placing BCM in the context of SP and by focusing on the strategic and the enterprise-wide sides of BCM in order to build safer and more secure futures.

## References

Ababaneh, R. (2010). The Role of Organizational Culture on Practicing Quality Improvement in Jordanian Public Hospitals. *Leadership in Health Services*, Vol. 23, No. 3, pp. 244-259.

Abdul Jalil, S. (2009). Raising Business Continuity Management Awareness in Malaysia. The information is available [on-line] at: <  
[http://www.cybersecurity.my/data/content\\_files/13/169.pdf?.diff=1182186060](http://www.cybersecurity.my/data/content_files/13/169.pdf?.diff=1182186060)> [21/12/2009].

Abdel Fattah, E. (2008). Introduction to Descriptive and Inferential Statistics Using SPSS (in Arabic). 1<sup>st</sup> Edition. The Scientific Algorithm.

Abumustafa, N. (2006). Development of a Warning Model for Currency Crisis in Emerging Economies: An Empirical Study Among Middle Eastern Countries. *International Journal of Management*, Vol. 23, No. 3, part 1, pp. 403-411.

Adams, L. (2009), The Role of Health Information Technology in Improving Quality and Safety in RI: can New Money Solve Old Problems? *Medicine and Health Rhode Island*, Vol. 92, No. 8, pp. 267-8.

Aghili, S. (2010). Organizational Risk Management. *The Internal Auditor*, Vol. 67, Issue 3, pp. 21-23.

Agnala, A. (1998). Management Development in the Arab World. *Education and Training*, Vol. 40, Issue 4/5, pp. 179-180.

Akroush, M. (2003). An Integrated Approach to Marketing Strategy Formulation and Implementation. PhD. Thesis, U.K.: University of Huddersfield.

Alesi, P. (2008). Building Enterprise-wide Resilience by Integrating Business Continuity Capability into Day-to-Day Business Culture and Technology. *Journal of Business Continuity and Emergency Planning*, Vol. 2, No. 3, pp. 214-220.

Aldehayyat, J. (2006). Strategic Planning in Publicly Quoted Jordanian Companies. PhD. thesis, U.K.: University of Huddersfield.

Aldehayyat, J. and Anchor, J. (2008). Strategic Planning Tools and Techniques in Jordan: Awareness and Use. *Strategic Change*, Vol. 17, Issue 7-8, pp. 281-293.

Al-Khattab, A. (2006). Political Risk Assessment in Jordanian International Firms. Ph.D thesis, UK: University of Huddersfield.

Ali, A. and Sabri, H. (2001). Organizational Culture and Job Satisfaction in Jordan. *Journal of Transitional Management Development*, Vol. 6, No. 1, pp. 105-118.

Alnsour, J. (2006). Planning and Managing the Built Environment in the Context of Compliance with Residential Standards in Jordan. PhD thesis, UK: University of Huddersfield.

Alonso, F. and Boucher, J. (2001). Business Continuity Plans for Disaster Response. The CPA Journal, Vol. 71, Issue 11, p. 60.

Alpander, G. and Lee, C. (1995). Culture, Strategy and Teamwork: the Keys to Organizational Change. Management Development, Vol. 14, No. 8, pp. 4-18.

Al-Rasheed, A. (2001). Features of Traditional Arab Management and Organization in the Jordan Business Environment. Journal of Transitional Management Development, Vol. 6, No. 1, pp. 27-53.

Al-Shaikh, F. (2003). The Practical Reality Theory and Business Ethics in a Non-Western Context: Evidence from Jordan. Journal of Management Development, Vol. 22, No.8, pp. 679-693.

Al-Shammari, H. and Hussein, R. (2008). Strategic Planning in Emergent Market Organizations: an Empirical Investigation. International Journal of Commerce and Management, Vol. 18, No. 1, pp. 47-59.

Altug, S. (2002). Risk Management and Post Project Evaluation Processes for Research and Development Projects. Sabanci University: in a partial fulfilment of the requirements for the degree of Master of Science.

Altarawneh, I. (2005). Training and Development Effectiveness: Practices, Roles and Impacts on Performance in Jordanian Banking Organizations. Ph.D thesis, UK: University of Huddersfield.

Amman Stock Exchange (2009). About ASE. The information is available [on-line] at: <[http://www.ase.com.jo/pages.php?menu\\_id=119&local\\_type=0&local\\_id=0&local\\_details=0](http://www.ase.com.jo/pages.php?menu_id=119&local_type=0&local_id=0&local_details=0)> [15/06/2009].

Andersen, T. (2008). The Performance Relationship of Effective Risk Management: Exploring the Firm-Specific Investment Rationale. Long Range Planning, Vol. 41, No. 2, pp. 155-176.

Anderson, R. (2000). Researching Risk Issues in the 21<sup>st</sup> Century. Balance Sheet, Vol. 8, Issue 3, pp. 40-42.

Appleby, R. (1994). Modern Business Administration. 6<sup>th</sup> Edition. Pitman Publishing.

Asharq Al-Awsat Newspaper (2009). Jordan: 15 Billion Dollar is the Volume of Investment in the Power Sector by 2020. The information is available [on-line] at: <<http://www.aawsat.com/details.asp?section=6&article=513427&issueno=11083>> [11/06/2009].

Ashford, W. (2007). IT Chiefs Increasingly Confident in Recovery Plans. *Computer Weekly*, Dec. 18/2007, p. 8.

Ashford, W. (2008a). Podcast: Business Continuity is not Just an IT Issue. The information is available [on-line] at: <<http://www.computerweekly.com/Articles/2008/05/07/230593/podcast-business-continuity-is-not-just-an-it-issue-russell-price-of-the-continuity.htm>> [08/12/2008].

Ashford, W. (2008b). Business Continuity Brings Strategic Gains. The information is available [on-line] at: <<http://www.computerweekly.com/Articles/2008/04/04/230131/business-continuity-brings-strategic-gains.htm>> [30/11/2008].

Ashton, B. (2005). The Audit of Business Continuity Management. *EDPACS*, Vol. 32, Issue 8, pp. 7-12.

ASIS International (2005). Business Continuity Guideline. The information is available [on-line] at: <<http://www.asisonline.org/guidelines/guidelinesbc.pdf>> [08/05/2009].

Association of Insurance and Risk Managers (2002). A Risk Management Standard. The information is available [on-line] at: <[http://www.aber.ac.uk/~finwww/Corporate%20Risk/airmic\\_risk-management-standard.pdf](http://www.aber.ac.uk/~finwww/Corporate%20Risk/airmic_risk-management-standard.pdf)> [03/05/2009].

Atkinson, P. (1990). Culture Change: Training. *The TQM Magazine*, Vol. 2, Issue 2, pp. 89-90.

Augustine, N.R. (1995). Business Crisis: Guaranteed Preventatives-and What to do After They Fail. *Executive Speeches*, Vol. 9, No. 6, pp. 28-42.

Badran, O. (2001). Study in Industrial Applications of Solar Energy and the Range of its Utilization in Jordan. *Renewable Energy*, Vol. 24, Issues 3-4, pp. 485-490.

Bajgoric, N. (2006). Information Management. *Information Technologies for Business Continuity: an Implementation Framework*. *Information Management and Computer Security*, Vol. 14, No. 5, pp. 450-466.

Bajgoric, N. and Moon, Y. (2009). Enhancing Systems Integration by Incorporating Business Continuity Drivers. *Industrial Management and Data Systems*, Vol. 109, No.1, pp. 74-97.

Barber, M. (2006). Exploring the Future through Scenario Planning. The information is available [on-line] at: <[http://www.lookingupfeelinggood.com/uploads/Exploring\\_the\\_Future\\_through\\_Scenario\\_Planning1.pdf](http://www.lookingupfeelinggood.com/uploads/Exploring_the_Future_through_Scenario_Planning1.pdf)> [10/06/2009].

Barnes, J. (2001). *A Guide to Business Continuity Planning*. Chichester: Wiley.

Barrese, J. and Scordis, N. (2003). Corporate Risk Management. *Review of Business*, Vol. 24, Issue 3, pp. 26-29.

Barton, L. and Hardigree, D. (1995). Risk and Crisis Management in Facilities: Emerging Paradigms in Assessing Critical Incidents. *Facilities*, Vol. 13, No. 9/10, pp. 11-14.

BBC (2004). Jordan King's Puts Faith in Hi-tech. The information is available [on-line] at: < <http://news.bbc.co.uk/1/hi/technology/3591027.stm> > [11/06/2009].

BBIC (2009). Biosafety & Biosecurity International Conference 2009. The information is available [on-line] at: < [http://www.biosafetyandbiosecurity-2009.org/index.php?option=com\\_content&view=section&layout=blog&id=11&Itemid=66](http://www.biosafetyandbiosecurity-2009.org/index.php?option=com_content&view=section&layout=blog&id=11&Itemid=66) > [06/05/2010].

BCI (2011). Good Practice Guidelines 2008. The information is available [on-line] at: < <http://www.thebci.org/gpgdownloadpage.htm> > [02/03/2011].

Beaman, B. and Albin, B. (2008). Steps to Disaster-Recovery Planning: An Inside Look at Technologies and Standards. *Tech Update*, June 30 - July 7, 2008, p. 25.

Bellot, J. (2011). Defining and Assessing Organizational Culture. *Nursing Forum*, Vol. 46, No. 1, pp. 29-37.

Belluz, D. (2002). Modern Risk Management. Give your Firm a Risk Profile and Gap Analysis. *Camagazine*/ November 2002.

Bishop, P., Hines, A. and Collins, T. (2007). The Current State of Scenario Development: An Overview of Techniques. *Foresight*, Vol. 9, No. 1, pp. 5-25.

Black, T. (1999). *Doing Quantitative Research in the Social Sciences*. 1<sup>st</sup> Edition. Sage Publications.

Blake, A. and Sinclair, T. (2002/7). *Tourism Crisis Management. Responding to September 11*. Christel DeHaan Tourism and Travel Research Institute. Nottingham University Business School, pp. 1-28.

Blumberg, B., Cooper, D. and Schindler, P. (2008). *Business Research Methods*. 2<sup>nd</sup> European Edition. McGraw-Hill Education.

BOJ Reports and Research Papers (2009). Questionnaire Survey on Business Continuity Management. Financial Systems and Bank Examination Department Bank of Japan. April 2009, pp. 1-23.

Bonn, I. (2005). Improving Strategic Thinking: a Multilevel Approach. *Leadership and Organization Development Journal*, Vol. 26, No. 5, pp. 336-354.

Booth, S. (2003). Business Continuity Management: A Crisis Management Approach. *Journal of Contingencies and Crisis Management*, Vol. 11, Issue 1, pp. 47-48.

Borodzicz, E. (2005). *Risk, Crisis & Security Management*. John Wiley & Sons.

Borodzicz, E. (2004). The Missing Ingredient is the Value of Flexibility. *International Journal of Simulation and Gaming*, Vol. 35, part 3, pp. 414-426.

Borodzicz, E. and Hills, A. (1997). Introduction to Special Issue on Risk. *International Journal of Risk, Security and Crime Prevention*, Perpetuity Press, Vol. 2, No. 2, pp. 81-82.

Botha, J. and Solms, R. (2004). A Cyclic Approach to Business Continuity Planning. *Information Management and Computer Security*, Vol. 12, No. 4, pp. 328-337.

Bradley, C. (1994). *Handbook of Psychology and Diabetes: A Guide to Psychological Measurement in Diabetes Research and Practice*. 1<sup>st</sup> Edition. Psychology Press.

Brazeau, P. (2008). Holistic Protection. *Canadian Underwriter*, Vol. 75, Issue 3, pp. 26-28.

Bryman, A. and Bell, E. (2007). *Business Research Methods*. 2<sup>nd</sup> Edition. Oxford University Press.

Bryman, A. and Cramer, D. (2001). *Quantitative Data Analysis with SPSS Release 10 for Windows: A Guide for Social Scientists*. 1<sup>st</sup> Edition. Routledge.

Buono, A., Bowditch, J., and Lewis, J. (1985). When Cultures Collide: the Anatomy of a Merger. *Human Relations*, Vol. 38, No. 5, pp. 477-500.

Business Continuity Institute (2005). *Business Continuity Research*. The information is available [on-line] at: <<http://www.thebci.org/BCIResearchReport.pdf>> [03/07/2009].

Business Continuity Institute (2008). Why Directors and C-Level Officers are Legally Liable if a Disaster or Disruption Occurs. The information is available [on-line] at: <<http://www.thebci.org/legal.htm>> [10/09/2008].

Business Continuity Planning Guide BCPG (1998). 1<sup>st</sup> Edition. PACE.

Business Dictionary (2008). The information is available [on-line] at: <<http://www.answers.com/topic/proactive>> [10/09/2008].

Business Middle East (2006). Database: Business Environment Rankings. *Business Middle East*, Vol. 14, Issue 9, p. 12.

Calder, A. (2008). *Business Continuity and BS25999: A Combined Glossary*. 1<sup>st</sup> Edition. IT Governance Publishing.

Camillus, J., Sessions, R. and Webb, R. (1998). Strategic Processes in Fast-Cycle Environments. *Strategy and Leadership*, Vol. 26, Issue 1, pp. 20-24.

Camillus, J. (1996). Reinventing Strategic Planning. *Strategy and Leadership*, Vol. 24, Issue 3, pp. 6-12.

Canadian Underwriter (2006). Better Business Continuity Planning Required: Leger Poll. *Canadian Underwriter*, Vol. 73, Issue 11, pp. 78.

Carneiro, A. (2006). Adopting New Technologies. *Handbook of Business Strategy*, Vol. 7, Issue 1, pp. 307-312.

Carter, H. (1999). Strategic Planning Reborn. *Work Study*, Vol. 48, No. 2, pp. 46–48.

Carton, S. (2001). September 11's Impact on Life and Your Business. The information is available [on-line] at: <<http://www.clickz.com/experts>> [26/01/2008].

Castillo, C. (2004). Disaster Preparedness and Business Continuity Planning at Boeing: An Integrated Model. *Journal of Facilities Management*, Vol. 3, No. 1, pp. 8-26.

CB Staff (2006). Marsh Saldana Gives Business Continuity Management for Healthcare Institutions. *Caribbean Business*, Vol. 34, Issue 41, p. S16.

Cerullo, V. and Cerullo, M. (2004). Business Continuity Planning: A Comprehensive Approach. *Information Systems Management*, Vol. 21, Issue 3, pp. 70–78.

Cervone, H. (2006). Disaster Recovery and Continuity Planning for Digital Library Systems. *OCLC Systems & Services: International Digital Library Perspectives*, Vol. 22, No. 3, pp. 173-178.

Chaffee, E. (1985). Three Models of Strategy. *Academy of Management Review*, Vol. 10, No. 1, pp. 89-98.

Chaharbaghi, K. (2007). The Problematic of Strategy: a Way of Seeing is also a Way of Not Seeing. *Management Decision*, Vol. 45, No. 3, pp. 327-339.

Chaharbaghi, K. and Willis, R. (1998). Strategy: the Missing Link between Continuous Revolution and Constant Evolution. *International Journal of Operations and Production Management*, Vol. 18, No. 9/10, pp. 1017-1027.

Chatelard, G. (2004). Jordan: A Refugee Haven. Robert Schuman Centre for Advanced Studies, European University Institute. Migration Policy Institute. The information is available [on-line] at: <  
<http://www.migrationinformation.org/Profiles/display.cfm?ID=236> > [11/06/2009].

Childs, D. and Dietrich, S. (2002). Contingency Planning and Disaster Recovery: A Small Business Guide. John Wiley & Sons.

Chisholm, P. (2008). Disaster Recovery Planning is Business-Critical. The CPA Journal, Vol. 78, Issue 7, p. 11.

Chow, W. (2000). Success Factors for IS Disaster Recovery Planning in Hong Kong. Information Management and Computer Security, Vol. 8, No. 2, pp. 80-86.

Clas, E. (2008). Business Continuity Plans: Key to Being Prepared for Disaster. Professional Safety, Vol. 53, Issue 9, pp. 45-48.

Collins, J. and Porras, J. (1996). Building Your Company's Vision. Harvard Business Review, Vol. 74, Issue 5, pp. 65-77.

Collis, J. and Hussey, R. (2003). Business Research: A Practical Guide for Undergraduate and Postgraduate Students. 2<sup>nd</sup> Edition. Palgrave Macmillan.

Communicaid Group Ltd. (2009). Doing Business in Jordan, Jordanian Social and Business. A Jordanian Culture Overview. Information is available [on-line] at: <  
<http://www.communicaid.com/access/pdf/library/culture/doing-business-in/Doing%20Business%20in%20Jordan.pdf>> [25/02/2011].

Contingency Planning Association of the Carolinas (2008). Healthcare Disaster Recovery Planning. The information is available [on-line] at: <  
<http://www.cpaccarolinas.org/Presentations/Disaster%20Recovery%20Planning%20in%20Healthcare060510.ppt>> [05/09/2008].

Cooper, D. and Schindler, P. (2003). Business Research Methods. 8<sup>th</sup> Edition. McGraw Hill.

Cooper, D. and Schindler, P. (2006). Business Research Methods. 9<sup>th</sup> Edition, International Edition. McGraw Hill.

Copacino, W. and Rosenfield, D. (1987). Analytic Tools for Strategic Planning. International Journal of Physical Distribution and Logistics Management, Vol. 17, No. 2, pp. 79-93.

Credit Control (2006). SMEs Urged to Put Business Continuity Arrangements in Place. Credit Control, Vol. 27, Issue 7/8, p. 86.



CRS Report for Congress (2007). Jordan: U.S. Relations and Bilateral Issues. Congressional Research Service. Dec. 4, pp. 1-22.

Csiszar, E. (2008). Managing Risk and Uncertainty. *Business and Economic Review*, Vol. 55, Issue 1, pp. 3-7.

Cunha, M. and Cunha, J. (2006). Towards a Complexity Theory of Strategy. *Management Decision*, Vol. 44, No. 7, pp. 839-850.

Cummings, J. (2003). Nurturing a Culture of Continuity. *Network World*, Vol. 20, Issue 42, pp. S4-S6.

Cunningham, J. (2008). Powerful Results from Weak Signals. *Directorship*, Vol. 34, Issue 2, p. 80.

Dadfar, H. (1993). In Search of Arab Management Direction and Identity. Paper presented in the First Arab Management Conference at Bradford University, UK, July 6-8, 1993, pp. 260-275.

D'Amico, V. (2007). Master the Three Phases of Business Continuity Planning. *Business Strategy Series*, Vol. 8, No. 3, pp. 214-220.

Dawes, T. (2004). Crisis Planning. *Manager: British Journal of Administrative Management*, Issue 42, Aug/Sep 2004, pp. 26-27.

Decker, A. (2005). Disaster Recovery: What it Means to be Prepared. *DM Review*, January 2005, pp. 44-46.

Deloitte Touche Tohmatsu/TPM Report (2002). A New Paradigm for Business Continuity Management. The information is available [on-line] at: <[www.deloitte.com/dtt/cda/doc/content/businesscontinuity.pdf](http://www.deloitte.com/dtt/cda/doc/content/businesscontinuity.pdf)> [06/05/2009].

Devargas, M. (1999). Survival is Not Compulsory: an Introduction to Business Continuity Planning. *Computers and Security*, Vol. 18, No. 1, pp. 35-46.

Dincer, O., Tatoglu, E. and Glaister, K. (2006). The Strategic Planning Process: Evidence from Turkish Firms. *Management Research News*, Vol. 29, No. 4, pp. 206-219.

Doherty, K. (1998). *Business Continuity Planning*. Auerbach Publications: New York.

Drewitt, T. (2008). *A Manager's Guide to BS25999: a Practical Guide to Developing and Implementing a Business Continuity Management System*. 1<sup>st</sup> Edition. IT Governance Publishing.

Easterby-Smith, M., Thorpe, R. and Lowe, A. (2002). *Management Research: An Introduction*. 2<sup>nd</sup> Edition. Sage.

- Easterby-Smith, M., Thorpe, R. and Jackson, P. (2008). *Management Research*. 3<sup>rd</sup> Edition. Sage.
- Edwards, B. (1994). Developing Successful Network Disaster Recovery Plan. *Information Management and Computer Security*, Vol. 2, No. 3, pp. 37-42.
- Edwards, B. and Cooper, J. (1994). Testing the Disaster Recovery Plan. *Information Management and Computer Security*, Vol. 3, No. 1, pp. 21-27.
- Egbuji, A. (1999). Risk Management of Organisational Records. *Records Management Journal*, Vol. 9, No. 2, pp. 93–116.
- Eisenhardt, K. (2002). Has Strategy Changed? *MIT Sloan Management Review*, Winter 2002, pp. 88-91.
- EJADA Consulting Services (2007). *Business Continuity Management: Think Continuity*. A conference paper presented by EJADA Consulting Services, Amman –Jordan 06 May 2007.
- Elliott, D., Swartz, E. and Herbane, B. (2010). *Business Continuity Management: A Crisis Management Approach*. 2<sup>nd</sup> Edition. Routledge: London.
- Elliott, D., Swartz, E. and Herbane, B. (1999). Just Waiting for the Next Big Bang: Business Continuity Planning in the UK Finance Sector. *Journal of Applied Management Studies*, Vol. 8, No. 1, pp. 43-60.
- Elmerick, M. (2003). Disaster Recovery Planning. *Secured Lender*, Vol. 59, Issue 6, pp. 20-24.
- Ernest-Jones, T. (2005). Business Continuity Strategy – the Life Line. *Network Security*, Vol. 2005, Issue 8, pp. 5-9.
- Ernst & Young (2008a). Moving Beyond Compliance. Ernst & Young's 2008 Global Information Security Survey, pp. 1-33.
- Ernst & Young (2008b). Business Continuity in Indian IT/ITES Companies, pp. 1-10.
- Ernst & Young (1996). The Ernst & Young International Information Security Survey 1995. *Information Management and Computer Security*, Vol. 4, No. 4, pp. 26-33.
- European Network and Information Security Agency (2008). *Business and IT Continuity: Overview and Implementation Principles*. February 2008, pp. 1-179.
- Falshaw, J., Glaister, K. and Tatoglu, E. (2006). Evidence on Formal Strategic Planning and Company Performance. *Management Decision*, Vol. 44, No. 1, pp. 9-30.

Farjoun, M. (2002). Towards an Organic Perspective on Strategy. *Strategic Management Journal*, Vol. 23, No. 7, pp. 561-594.

Fatemi, A. and Luft, C. (2002). Corporate Risk Management Costs and Benefits. *Global Finance Journal*, Vol. 13, Issue 1, pp. 29-38.

Fawcett, H. (2009). What is Business Continuity Management? The information is available [on-line] at: < <http://www.bs25999.com/business-continuity-planning/91--what-is-business-continuity-management-> > [17/01/2009].

Feigenbaum, H. (2002). Globalization and Cultural Diplomacy. Centre for Art and Culture. The George Washington University. Art, Culture & the National Agenda. Issue paper, pp. 1-54. The information is available [on-line] at: <<http://www.culturalpolicy.org/pdf/globalization.pdf>> [11/06/2009].

Figenbaum, A. and Thomas, H. (1986). Dynamic and Risk Measurement Perspectives on Bowman's Risk-Return Paradox for Strategic Management: An Empirical Study. *Strategic Management Journal*, Vol. 7, No.5, pp. 395-407.

Field, A. (2009). *Discovering Statistics Using SPSS*. 3<sup>rd</sup> Edition. SAGE.

Fink, A., Marr, B., Siebe, A. and Kuhle, J. (2005). The Future Scorecard: Combining External and Internal Scenarios to Create Strategic Foresight. *Management Decision*, Vol. 43, No. 3, pp. 360-381.

Finley, R. (2006). Developing a Practical Business Continuity Plan for the CHRISTTUS Health Risk Management Department. *Journal of Business Continuity and Emergency Planning*, Vol. 1, No. 2, pp. 200-212.

First Jordan (2008). First Jordan: Multilingual Business and Tourism Portal. The information is available [on-line] at: < <http://www.1stjordan.net/index.shtml> > [11/06/2009].

Fitzsimon, J. (2006). Business Continuity Management. CGIAR Internal Auditing Unit, pp. 1-17. The information is available [on-line] at: <<http://www.cgiar.org/pdf/iau/Business%20Continuity%20Management%20GPN.pdf>> [06/02/2010].

FM Global (2010). The information is available [on-line] at: < <http://www.fmglobal.com/page.aspx?id=01000000> > [04/07/2010].

Fortune, J. and Peters, G. (1995). *Learning from Failure: The Systems Approach*. John Wiley & Sons.

Foster, S. and Dye, K. (2005). Building Continuity into Strategy. *Journal of Corporate Real Estate*, Vol. 7, No. 2, pp. 105-119.

Frost, C. (1994). Effective Responses for Proactive Enterprises: Business Continuity Planning. *Disaster Prevention and Management*, Vol. 3, No. 1, pp. 7-15.

Gage, T. and Reinoso, V. (2002). Leading Through Uncertain Times. *Journal of Business Strategy*, Vol. 23, Issue 2, pp. 10-11.

Galloway, D. and Funston, R. (2000). The Challenges of Enterprise Risk Management. *Balance Sheet*, Vol. 8, No. 6, pp. 22-25.

Gallagher, M. (2003). *Business Continuity Management: How to Protect your Company from Danger*. 1<sup>st</sup> Edition. Prentice Hall.

Gallagher, M. (2005). The Road to Effective Business Continuity Management. *Accountancy Ireland*, Vol. 37, No. 2, pp. 66-68.

Gallagher, M. (2007). *Business Continuity Management: Emerging Standards*. *Accountancy Ireland*, Vol. 39, No. 3, pp. 34-36.

Garcia, A. (2008). Business Continuity: Best Practices. *eWEEK*, Vol. 25, Issue 33, pp. 32-40.

Gatti, C. and Vagnani, G. (2002). Evaluating Corporate Strategic Plans: a Risk-Based Approach. *Journal of Financial Management and Analysis*, Vol. 15, No. 2, pp. 17-26.

Gentzoglanis, A. (2007). Financial Integration, Regulation and Competitiveness in Middle East and North Africa Countries. *Managerial Finance*, Vol. 33, No. 7, pp. 461-476.

Ghuri, P. and Gronhaug, K. (2005). *Research Methods in Business Studies: a Practical Guide*. 3<sup>rd</sup> Edition. Prentice Hall.

Gibb, F. and Buchanan, S. (2006). A Framework for Business Continuity Management. *International Journal of Information Management*, Vol. 26, Issue 2, pp. 128-141.

Gill, T. (2006). Workplace Continuity: How Risk and Technology Will Affect Facilities Strategy. *Journal of Facilities Management*, Vol. 4, No. 2, pp. 110-125.

Glaister, K. and Falshaw, R. (1999). Strategic Planning: Still Going Strong. *Long Range Planning*, Vol. 32, No. 1, pp. 107-116.

Glendon, L. (2009). The Human Dimension of Business Continuity Management. A report from the round-table discussion held on March 25<sup>th</sup>, 2009, pp. 1-12. The Business Continuity Institute.

Glenn, J. and Gordon, T. (2002). Creating a Better World: 15 Global Challenges. *Foresight*, Vol. 4, No. 5, pp. 15-37.

Golden, C. and Oblinger, D. (2007). IT Myths. *EDUCAUSE Review*, Vol. 42, No. 3, pp. 10-11.

Gondek, R. (2002). Disaster Recovery: When More of the Same Isn't Better. *Journal of Business Strategy*, Vol. 23, No. 4, pp. 16-18.

Grant, R. (2003). Strategic Planning in a Turbulent Environment: Evidence from the Oil Majors. *Strategic Management Journal*, Vol. 24, No. 6, pp. 491-517.

Graetz, F. (2002). Strategic Thinking versus Strategic Planning: Towards Understanding the Complementarities. *Management Decision*, Vol. 40, No.5, pp. 456-462.

Grove, A. (1996). *Only the Paranoid Survive*. Currency Doubleday: New York.

Hair, J., Babin, B., Money, A. and Samouel, P. (2003). *Essentials of Business Research Methods*. Wiley.

Hambrick, D. and Manson, P. (1984). Upper Echelons: the Organization as a Reflection of its Top Managers. *Academy of Management Review*, Vol. 9, No. 2, pp. 193-206.

Hamel, G. and Prahalad, C.K. (1993). Strategy as Stretch and Leverage. *Harvard Business Review*, Vol. 71, Issue 2, pp. 75-84.

Hanson, A. (2006). Organizational Responses and Adaptations after 9-11. *Management Research News*, Vol. 29, No. 8, pp. 480-494.

Harrison, E. (1995). Strategic Planning Maturities. Shows the Dynamic Interrelationship Between Planning Horizons and Strategic Planning Maturities. *Management Decision*, Vol. 33, No. 2, pp. 48-55.

Haskins, G. (2007). Exploring 'what if' Scenarios. *Strategy Magazine*, Issue 14, December 2007.

Hawkins, S., Yen, D. and Chou, D. (2000). Disaster Recovery Planning: a Strategy for Data Security. *Information Management and Computer Security*, Vol. 8, No. 5, pp. 222-229.

Hayes, S. (2004). Covering All the Bases. *Chartered Accountants Journal*, Vol. 83, Issue 11, pp. 22-24.

Hearnden, K. (1995). Business Continuity Planning: Part 3: Acknowledging the Impact of Computer Down-sizing. *Computer Audit Update*, Vol. 1995, Issue 7, pp. 3-9.

Hecht, J. (2002). Business Continuity Management. *Communications of the Association for Information Systems*, Vol. 8, Article 30, pp. 444-450.

- Heikkinen, D. and Sarkis, J. (1996). Disaster Recovery Issues for EDI Systems. *Logistics Information Management*, Vol. 9, No. 6, pp. 27-34.
- Heng, G. (1996). Developing a Suitable Business Continuity Planning Methodology. *Information Management and Computer Security*, Vol. 4, No. 2, pp. 11–13.
- Henry, A. (2006). Preparing for the Unknown: Developing a Business Continuity Plan. *Rural Telecommunications*, Vol. 25, Issue 6, pp. 14-20.
- Herbane, B., Elliott, D. and Swartz, E. (2004). Business Continuity Management: Time for a Strategic Role? *Long Range Planning*, Vol. 37, No. 5, pp. 435-457.
- Hernandez, G. (2007). Assessing Risks Through Business Continuity Management. *Caribbean Business*. March 29, 2007, pp. S4-S5.
- Herring, R. (Ed.) (1983). *Managing International Risk*. 1<sup>st</sup> Edition. Cambridge University Press.
- Hewlett, C.A. (1999). Strategic Planning for Real Estate Companies. *Journal of Property Management*, Vol. 64, No. 1, p. 264.
- Hiles, A. (2004). *Business Continuity: Best Practice*. 2<sup>nd</sup> Edition. Rothstein Associates.
- Hillson, D. (2000). Project Risks: Identifying Causes, Risks and Effects. *PM Network*, Vol. 14, No. 9, pp. 48-51.
- Hinde, S. (2002). Security Surveys Spring Crop. *Computer and Security*, Vol. 21, Issue 4, pp. 310-321.
- Ho, S. and Pike, R. (1992). The Use of Risk Analysis Techniques in Capital Investment Appraisal. Cited in Ansell, J. and Wharton, F. (1992). *Risk Analysis, Assessment and Management*. John Wiley and Sons.
- Hoecklin, L. (1995). *Managing Cultural Differences: Strategies for Competitive Advantage*. The Economist Intelligence Unit.
- Hofmann, M. (2000). Business Continuity Plans Need Constant Refining. *Business Insurance*, Vol. 34, Issue 43, p. 67.
- Hofstede, G. (1991). *Cultures and Organization: Software of the Mind*. McGraw-Hill Book Company.
- Hollman, K. and Forrest, J. (1991). Risk Management in a Service Business. *International Journal of Service Industry Management*, Vol. 2, No. 2, pp. 49-65.

Horner, K. (2006). Successful Business Continuity Strategies. *Computer Technology Review*, Vol. 26, part. 3, pp. 29-30.

Hox, J. and Boeije, H. (2005). Data Collection, Primary vs. Secondary. *Encyclopaedia of Social Measurement*, Vol. 1, pp. 593-599.

Hussey, J. and Hussey, R. (1997). *Business Research: A Practical Guide for Undergraduate and Postgraduate Students*. Palgrave.

Ito, H. and Lee, D. (2005). Assessing the Impact of the September 11 Terrorist Attacks on U.S. Airline Demand. *Journal of Economics and Business*, Vol. 57, No. 1, pp. 75-95.

Iyer, R. and Bandyopadhyay, K. (2000). Managing Technology Risks in the Healthcare Sector: Disaster Recovery and Business Continuity Planning. *Disaster Prevention and Management*, Vol. 9, No.4, pp. 257-270.

Janes, J. (2001). Categorical Relationships: Chi-square. *Library Hi Tech*, Vol. 19, No. 3, pp. 296-298.

Jarrett, M. (2009). Change and Survive. *Strategy Magazine*, Issue 19, March 2009, pp. 8-11.

Jekowski, J. (1998). What is Strategic Planning and Future Visioning? The information is available [on-line] at: < <http://www.itpnm.com/what-is-strategic-planning.pdf>> [04/11/2008].

Jeppesen, K. (2007). Organizational Risk in Large Audit Firms. *Managerial Auditing Journal*, Vol. 22, No. 6, pp. 590-603.

JISCInfoNet (2008). Scenario Planning. The information is available [on-line] at: < [www.jiscinfonet.ac.uk/tools/scenario-planning](http://www.jiscinfonet.ac.uk/tools/scenario-planning)> [31/05/2008].

Johnson, G. and Scholes, K. (1997). *Exploring Corporate Strategy: Text and Cases*. Prentice-Hall: Cambridge.

Johnson, P., Buehring, A., Cassell, C. and Symon, G. (2006). Evaluating Qualitative Management Research: Towards a Contingent Criteriology. *International Journal of Management Reviews*, Vol. 8, Issue 3, pp. 131-156.

Jordan, E. (1999). IT Contingency Planning: Management Roles. *Information Management and Computer Security*, Vol. 7, No. 5, pp. 232-238.

Jordan Directions (2010). The 2<sup>nd</sup> Family Business Conference. Information is available [online] at: [http://www.jordandirections.com/component/option,com\\_eventlist/Itemid,102/id,13/view/details/](http://www.jordandirections.com/component/option,com_eventlist/Itemid,102/id,13/view/details/) [25/02/2011].

Jordanian Investment Board (2009). About JIB. The information is available [on-line] at: <[http://www.jordaninvestment.com/pages.php?menu\\_id=1&local\\_type=0&local\\_id=&local\\_details=&local\\_details1=&localsite\\_branchname=JIB](http://www.jordaninvestment.com/pages.php?menu_id=1&local_type=0&local_id=&local_details=&local_details1=&localsite_branchname=JIB)> [11/06/2009].

Journal of Risk Finance (2004) (Author Anonymous). Business Continuity Planning: Interview with Brian Jemelian. *The Journal of Risk Finance*, Vol. 5, No. 4, pp. 29-31.

Kachaner, N. and Deimler, M. (2008). How Leading Companies are Stretching their Strategy. *Strategy and Leadership*, Vol. 36, No. 4, pp. 40-42.

Karakasidis, K. (1997). A Project Planning Process for Business Continuity. *Information Management and Computer Security*, Vol. 5, No. 2, pp. 72-78.

Karen, T. (2009). Kowar Group. *Meed Middle East Economic Digest*, Vol. 53, Issue 31, pp.

Kash, T. and Darling, J. (1998). Crisis Management: Prevention, Diagnosis and Intervention. *Leadership and Organization Development Journal*, Vol. 19, No. 4, pp. 179-186.

Kelly, W. (2007). Continuity Belongs in Business Planning Process. *Business Insurance*, Vol. 41, Issue 9, p. 30.

Kippenberger, T. (1999). Reducing the Impact of the Unexpected. *Management Research*, Vol. 4, Issue 3, pp. 28-31.

Knight, P. (2002). *Small-Scale Research*. 1<sup>st</sup> Edition. Sage.

Koch, R. (2004). Best Practices in Business Continuity. *Communications News*, Vol. 41, part 11, pp. 24-25.

Kondrasuk, J. (2005). A US View of Terrorism. *Disaster Prevention and Management*, Vol. 14, No. 5, pp. 644-656.

KPMG (2009). Business Resilience in China: a KPMG China Study. The information is available [on-line] at: <[http://www.kpmg.com/CN/en/IssuesAndInsights/ArticlesPublications/Documents/business\\_resilience\\_china\\_0903.pdf](http://www.kpmg.com/CN/en/IssuesAndInsights/ArticlesPublications/Documents/business_resilience_china_0903.pdf)> [29/11/2010].

Krell, E. (2006). Business Continuity: Creating a Framework for Success. *CMA Management*, Vol. 79, Issue 8, pp. 30-33.

Krummert, B. (2005). How to Stay In the Game after a Crisis. *Restaurant Hospitality*, Vol. 89, Issue 10, p. 28.



Kubitscheck, V. (2001). Business Discontinuity-A Risk Too Far. *Balance Sheet*, Vol. 9, No. 3, pp. 33-38.

Lamberg, J., Tikkanen, H., Nokelainen, T. and Suur-Inkeroinen, H. (2009). Competitive Dynamics, Strategic Consistency, and Organizational Survival. *Strategic Management Journal*, Vol. 30, No. 1, pp. 45-60.

Lawson, R. and Ventriss, C. (1992). Organizational Change: the Role of Organizational Culture and Organizational Learning. *Psychological Record*, Vol. 42, No. 2, pp. 208-218.

Lee, N. and Lings, I. (2008). *Doing Business Research: A Guide to Theory and Practice*. 1<sup>st</sup> Edition. Sage.

Lee, Y. and Harrald, J. (1999). Critical Issue for Business Area Impact Analysis in Business Crisis Management: Analytical Capability. *Disaster Prevention and Management*, Vol. 8, No. 3, pp. 184-189.

Leitner, P. (2006). Managing the Ultimate Corporate Risk. *Financial Executive*, Vol. 22, Issue 4, p. 18.

Levitt, M. and Schenker, S. (2008). Amman Warms to Hamas. The information is available [on-line] at: <<http://www.washingtoninstitute.org/templateC05.PHP?CID=2925>> [23/06/2009].

Library of Congress (2006). Federal Research Division. Country Profile: Jordan. Sep. 2006, pp. 1-27.

Lindstrom, J., Samuelsson, S. and Hagerfors, A. (2010). Business Continuity Planning Methodology. *Disaster Prevention and Management*, Vol. 19, No. 2, pp. 243-255.

Low, S., Liu, J. and Sio, S. (2010). Business Continuity Management in Large Construction Companies in Singapore. *Disaster Prevention and Management*, Vol. 19, No. 2, pp. 219-232.

Malone, S. (1989). Selected Correlates of Business Continuity Planning in the Family Business. *Family Business Review*, Vol. 2, No. 4, pp. 341-353.

Marsh (2008). The Upside to Business Continuity. Marsh's European Business Continuity Benchmarking Report, pp. 1-12.

Marsh Inc. (2004). About Us. The information is available [on-line] at: <[http://www.marshriskconsulting.com/st/PSEV\\_C\\_304\\_NR\\_304.htm](http://www.marshriskconsulting.com/st/PSEV_C_304_NR_304.htm)> [03/08/2010].

Mason, R. (2007). The External Environment's Effect on Management and Strategy. *Management Decision*, Vol. 45, No. 1, pp. 10-28.

Maxwell, J. (1996). *Qualitative Research Design: An Interactive Approach*. Thousand Oaks, CA: Sage.

Maylor, H. and Blackmon, K. (2005). *Researching Business and Management*. 1<sup>st</sup> Edition. Palgrave Macmillan.

Mazengia, M. (2008). In the Event of Tragedy. *Camagazine. Technology Management*, Vol. 141, Issue 4, pp. 45-47.

Maznevski, M., Steger, U., Amann, W. (2007). Perspectives for Managers: Managing Complexity in Global Organizations. *IMD International*, No. 141, February 2007. The information is available [on-line] at: < <http://media.ft.com/cms/d38ba8ea-d933-11db-9b4a-000b5df10621.pdf>> [14/07/2009].

McKinnon, J. (1988). Reliability and Validity in Field Research: Some Strategies and Tactics. *Accounting, Auditing and Accountability Journal*, Vol. 1, No. 1, pp. 34-54.

McLarney, C. (2001). Strategic Planning-Effectiveness-Environment Linkage: a Case Study. *Management Decision*, Vol. 39, No. 10, pp. 809-817.

Melton, A. and Trahan, J. (2009). Business Continuity Planning: Overcoming Disaster Before it Happens. *Risk Management*, Vol. 56, part 10, pp. 46-48.

Merna, T. and Al-Thani, F. (2005). *Corporate Risk Management: An Organizational Perspective*. John Wiley & Sons.

Middle East Monitor (2007a). Room from Improvement Region-Wide. *Middle East Monitor: East Med*. Vol. 17, Issue 11, p. 3.

Middle East Monitor (2007b). FDI Outlook Good despite Politics, Inflation. *Middle East Monitor: East Med*. Vol. 17, Issue 6, p. 8.

Middle East Monitor (2007c). Government Attempts to Appease Voters. *Middle East Monitor: East Med*. Vol. 17, Issue 12, p. 6.

Miles, R. (2002). Employment and Unemployment in Jordan: The Importance of the Gender System. *World Development*, Vol. 30, No. 3, pp. 413-427.

Mintzberg, H., Ahlstrand, B. and Lampel, J. (1998). *Strategy Safari; the Complete Guide Through the Wilds of Strategic Management*. Prentice Hall.

Mintzberg, H. (1994). The Fall and Rise of Strategic Planning. *Harvard Business Review*, Vol. 72, Issue 1, pp. 107-114.

Mitroff, I., Pearson, C. and Pauchant, T. (1992). Crisis Management and Strategic Management: Similarities, Differences and Challenges. *Advances in Strategic Management*, Vol. 8, pp. 235-260.

Mitroff, I. (2004). Think Like a Sociopath, Act Like a Saint. *Journal of Business Strategy*, Vol. 25, No. 5, pp. 42-53.

Mittelstaedt, Jr., R. (2004). Will Your Next Mistake Be Fatal? Avoiding the Chain of Mistakes that Can Destroy Your Organization. Wharton School Publishing.

Mitts, J. (2005). Business Continuity and Disaster Recovery Plans: How and When to Test Them. *EDPACS*, Vol.33, Issue 5, pp. 8-24.

MoICT (2003). The Ministry of Information and Communications Technology: About MoICT. The information is available [on-line] at <[http://www.moict.gov.jo/MoICT\\_about\\_moict.aspx](http://www.moict.gov.jo/MoICT_about_moict.aspx)> [12/06/2009].

Momani, N. (2010). Business Continuity Planning: Are We Prepared for Future Disasters. *American Journal of Economics and Business Administration*, Vol. 2, No. 3, pp. 272-279.

Moore, T., Lakha, R. (2004). Tolley's Handbook of Disaster and Emergency Management: Principles and Practice. 2<sup>nd</sup> Edition. LexisNexis.

Morwood, G. (1998). Business Continuity: Awareness and Training Programmes. *Information Management and Computer Security*, Vol. 6, No. 1, pp. 28-32.

Mostafa, M., Sheaff, R., Morris, M. and Ingham, V. (2004). Strategic Preparation for Crisis Management in Hospitals: Empirical Evidence from Egypt. *Disaster Prevention and Management*, Vol. 13, No. 5, pp. 399-408.

Msezane, T. and McBride, J. (2002). Corporate Real Estate and Business Continuity: An Integrated Enterprise Conceptualization. *Journal of Corporate Real Estate*, Vol. 4, No. 4, pp. 348-356.

Murakmi, J., Alford, R., Baribault, C., Starr, J., Botes, P. and Schwaderer, D. (2006). Secure Business Continuity: Strategies for Business Continuity Management and Disaster Recovery. Symantec Yellow Books. Version 1.2 Symantec Corporation.

National Fire Protection Association (2007). NFPA 1600 Standard on Disaster/Emergency Management and Business Continuity Programs. An International Codes and Standards Organization. 2007 Edition, pp. 1-51.

Nemzow, M. (1997). Business Continuity Planning. *International Journal of Network Management*, Vol. 7, Issue 3, pp. 127-136.

NetMBA (2010). The Strategic Planning Process. The information is available [on-line] at: < <http://www.netmba.com/strategy/process/>> [27/10/2010].

Neuman, W. (2000). *Social Research Methods: Qualitative and Quantitative Approaches*. 4<sup>th</sup> Edition. A Pearson Education Company.

News and Events (2009). University in Jordan uses USQ as benchmark for e-learning. The information is available [on-line] at: < <http://www.usq.edu.au/newsevents/news/jordane-learning.htm>> [11/06/2009].

Nosworthy, J. (2000). A Practical Risk Analysis Approach: Managing BCM Risk. *Computers and Security*, Vol. 19, No. 7, pp. 596-614.

Noy, E. and Ellis, S. (2003). Risk: a Neglected Component of Strategy Formulation. *Journal of Managerial Psychology*, Vol. 18, No. 7, pp. 691-707.

Noy, E. and Ellis, S. (2003). Corporate Risk Strategy: Does it Vary Across Business Activities? *European Management Journal*, Vol. 21, No. 1, pp. 119-128.

O'Brien, P. (2000). *Scenario Planning: A Strategic Tool*. Department of Agriculture Fisheries Forestry-Australia. Bureau of Rural Sciences. Commonwealth of Australia, pp. 1-35.

Ocasio, W. and Joseph, J. (2008). Rise and Fall- or Transformation? The Evolution of Strategic Planning at the General Electric Company, 1940-2006. *Long Range Planning*, Vol. 41, Issue 3, pp. 248-272.

O'Regan, N. and Ghobadian, A. (2002). Formal Strategic Planning: The Key to Effective Business Process Management. *Business Process Management Journal*, Vol. 8, No. 5, pp. 416-429.

O'Shannassy, T. (2003). Modern Strategic Management: Balancing Strategic Thinking and Strategic Planning for Internal and External Stakeholders. *Singapore Management Review*, Vol. 25, Issue 1, pp. 53-67.

Pallant, J. (2007). *SPSS: Survival Manual*. 3<sup>rd</sup> Edition. McGraw-Hill.

Palmer, T. and Wiseman, R. (1999). Decoupling Risk Taking from Income Stream Uncertainty: A Holistic Model of Risk. *Strategic Management Journal*, Vol. 20, No. 11, pp. 1037-1062.

Parsons, W. (1996). Crisis Management. *Career Development International*, Vol. 1, No. 5, pp. 26-28.

Partington, D. (2002). *Essential Skills for Management Research*. 1<sup>st</sup> Edition. SAGE.

Paterson, C. and Britten, N. (2000). In Pursuit of Patient-centred Outcomes. *Journal of Health Services Research and Policy*, Vol. 5, No. 1, pp. 27-38.

Pauchant, T. and Mitroff, I. (1992). *Transforming the Crisis-prone Organization: Preventing Individual, Organizational, and Environmental Tragedies*. Jossey-Bass Publishers.

Pauchant, T. and Mitroff, I. (1988). Crisis Prone versus Crisis Avoiding Organizations: Is your Company's Culture its Own Worst Enemy in Creating Crises? *Industrial Crisis Quarterly*, Vol. 2, No. 1, pp. 53-63.

Peart, M. (2006). Covering All Bases (Risk Management). *Strategic Direction*, Vol. 23, Issue 5, pp. 37-41.

Pearson, C. and Clair, J. (1998). Reframing Crisis Management. *Academy of Management Review*, Vol. 23, No. 1, pp. 59-76.

Pender, S. (2001). Managing Incomplete Knowledge: Why Risk Management is not Sufficient. *International Journal of Project Management*, Vol. 19, No. 2, pp. 79-87.

Pension Protection Fund (2004). Strategic Plan 2006/07-2008/09. The information is available [on-line] at: < [http://www.pensionprotectionfund.org.uk/strategic\\_plan.pdf](http://www.pensionprotectionfund.org.uk/strategic_plan.pdf) >. [27-02-2008].

Peter, C. (2010). The Plume and the Planes. *Bloomberg Businessweek*, 26-April 2010, Issue 4176, pp. 18-19.

Petrantonakis, P. and Panayiotopoulos, J. (2005). Using Assignment Model as an Automated Recovery System. *Disaster Prevention and Management*, Vol. 14, No. 1, pp. 89-96.

Pettigrew, A. (1979). On Studying Organizational Culture. *Administrative Science Quarterly*, Vol. 24, pp. 570-581.

Pillar, P. (2001). Fighting International Terrorism: Beyond September 11<sup>th</sup>. The information is available [on-line] at: <[http://www.dni.gov/nic/PDF\\_GIF\\_speeches/wmspeechNov01.pdf](http://www.dni.gov/nic/PDF_GIF_speeches/wmspeechNov01.pdf)> [28-01-2008].

Pitt, M. (2010). Coughs, Sneezes and the Progress of Diseases. *Human Resource Management International Digest*, Vol. 18, Issue 1.

Pitt, M. and Goyal, S. (2004). Business Continuity Planning as a Facilities Management Tool. *Facilities*, Vol. 22, No. 3/ 4, pp. 87-99.

Pollard, D. and Hotho, S. (2006). Crises, Scenarios and the Strategic Management Process. *Management Decision*, Vol. 44, No. 6, pp. 721-736.

- Porter, M. (1997). Creative Advantages. *Executive Excellence*, Vol. 14, pp. 17-18.
- Porter, M. (1979). How Competitive Forces Shape Strategy. *Harvard Business Review*, Vol. 57, No. 2, pp. 137-145.
- Porter, L., Lawler, E., and Hackman, J. (1975). *Behavior in Organizations*. McGraw-Hill, New York, NY.
- Preble, J. (1997). Integrating the Crisis Management Perspective into the Strategic Management Process. *Journal of Management Studies*, Vol. 34, No. 5, pp. 769-791.
- Price, A.D.F., Ganiev, B.V. and Newson, E. (2003). Changing Strategic Management Practice within the UK Construction Industry. *Strategic Change*, Vol. 12, Issue 7, pp. 347-366.
- Proctor, T. (1997). Establishing a Strategic Direction. *Management Decision*, Vol. 35, No. 2, pp. 143-154.
- Protectus Bulletin (2006). *Business Continuity Planning and Corporate Governance*. Issue 2-July 2006.
- Quality Assurance Agency for Higher Education (2006). *Business Continuity Plan. Version 7.0*. The information is available [on-line] at: <<http://www.qaa.ac.uk/aboutus/policy/businessContinuityPlan.asp>> [24-10-2008].
- Quazi, H. (2001). Sustainable Development: Integrating Environmental Issues into Strategic Planning. *Industrial Management and Data Systems*, Vol. 101, No. 2, pp. 64-70.
- Quinn, J. (1980). *Strategies for Change: Logical Incrementalism*. Homewood: Irwin, IL.
- Quinn, L. (2008). Risk Managers Play Critical Role in Disaster Recovery. *National Underwriter Property & Casualty*, Feb. 11, 2008, pp. 27-39.
- Quirchmayr, G. (2004). Survivability and Business Continuity Management. *ACM International Conference Proceeding Series*, Vol. 54, 2004, pp. 3-6.
- Ralph, K. (2000). Managing and Controlling Risk. *Year 2000 Practitioner*, Vol. 2, Issue 1, p. 14.
- Raspin, P. and Terjesen, S. (2007). Strategy Making: What have we Learned about Forecasting the Future. *Business Strategy Series*, Vol. 8, No. 2, pp. 116-121.
- Ratcliffe, J. (2002). Scenario Planning: Strategic Interviews and Conversations. *Foresight*, Vol. 4, No. 1, pp. 19-30.

Rawashdeh, M. and Squalli, J. (2005). A Sectoral Efficiency Analysis of the Amman Stock Exchange. Economic Policy Research Unit. Working Paper No. 05-04. American University in Dubai, EPRU, Zayed University, pp. 1-10.

Regester, M. and Larkin, J. (2005). Risk Issues and Crisis Management. 3<sup>rd</sup> Edition. CIPR.

Remenyi, D., Williams, B., Money, A. and Swartz, E. (1998). Doing Research in Business and Management: An Introduction to Practice and Method. 1<sup>st</sup> Edition. SAGE.

Rennels, B. (2006). Disaster Recovery Planning: A Practical Guide to Starting the Plan Introduction. A White Paper presented by Double-Take Software Dec. 2006, pp. 1-5.

Richardson, J. (2009). Uncertainty, the Critical Basis of Risk Management. Foresight, Vol. 11, No. 6, pp. 42-55.

Ritchie, B. (2004). Chaos, Crises and Disasters: A Strategic Approach to Crisis Management in the Tourism Industry. Tourism Management, Vol. 25, Issue 6, pp. 669-683.

Robb, D. (2006). Lessons in Business Continuity and Disaster Recovery. Business Communications Review, Vol. 36, Issue 11, pp. 52-55.

Roberts, P. (2008). Engaging Executives in Business Continuity Management. Management Services, Vol. 52, No. 2, pp. 38-40.

Rockett, J.P. (1999). Definitions are not What They Seem. Risk Management: An International Journal, Vol. 1, part 3, pp. 37-47.

Rodetis, S. (1999). Can Your Business Survive the Unexpected? Journal of Accountancy Vol. 187, 1999. The information is available [on-line] at: <<http://www.questia.com/googleScholar.qst?docId=5001233723>> [14/05/2009].

Rohde, R. and Haskett, J. (1990). Disaster Recovery Planning for Academic Computing Centres. Communications of the ACM, Vol. 33, No. 6, pp. 652-657.

Ross, D. (2000). Risk Management: the Way Forward. Balance Sheet, Vol. 8, No. 1, pp. 7-10.

Royds, J. (2006). The Future of Business Continuity Management. Credit Control, Vol. 27, Issue 7/8, pp. 54-57.

Rozek, P. and Groth, D. (2008). Business Continuity Planning. Disaster Preparedness. The information is available [on-line] at: <[http://www.healthmgttech.com/features/2008\\_march/0308\\_business\\_continuity.aspx](http://www.healthmgttech.com/features/2008_march/0308_business_continuity.aspx)> [06/05/2009].

Ruefli, T., Collins, J. and Lacugna, J. (1999). Risk Measures in Strategic Management Research: Auld Lang Syne. *Strategic Management Journal*, Vol. 20, No. 2, pp. 167-194.

Sabri, H. (2004). Socio-Cultural Values and Organizational Culture. *Journal of Transitional Management Development*, Vol. 9, No. 2, pp. 123-145.

Saccomanno, P. and Mangialardi, V. (2008). Be Prepared for IT Disasters. *Canadian Consulting Engineer*, Vol. 49, Issue 4, pp. 35-40.

Saunders, M., Lewis, P. and Thornhill, A. (2007). *Research Methods for Business Students*. 4<sup>th</sup> Edition, Financial Times Prentice Hall.

Saunders, M., Lewis, P. and Thornhill, A. (2000). *Research Methods for Business Students*. 2<sup>nd</sup> Edition. Prentice Hall.

Savage, M. (2002). Business Continuity Planning. *Work Study*, Vol. 51, No. 5, pp. 254-261.

Savvas, A. (2008). 75% of Employees Unaware of their Firms' Business Continuity Plans. *Computer Weekly*, April 29/2008, p. 36.

Saxby, C., Parker, K., Nitse, P. and Dishman, P. (2002). Environmental Scanning and Organizational Culture. *Marketing Intelligence and Planning*, Vol. 20, No. 1, pp. 28-34.

Scanlan, G. (2006). The Enterprise of Crime and Terror-the Implication for Good Business. *Journal of Financial Crime*, Vol. 13, No. 2, pp. 164-176.

Schraeder, M. (2002). A Simplified Approach to Strategic Planning: Practical Considerations and an Illustrated Example. *Business Process Management Journal*, Vol. 8, No. 1, pp. 8-18.

Schraeder, M., Tears, R. and Jordan, M. (2005). Organizational Culture in Public Sector Organization: Promoting Change through Training and Leading by Example. *Leadership and Organization Development Journal*, Vol. 26, No. 6, pp. 492-502.

Schriefer, A. (1995a). Getting the Most Out of Scenarios: Some Questions and Answers. *Strategy and Leadership*, Vol. 23, No. 6, pp. 37-40.

Schriefer, A. (1995b). Getting the Most Out of Scenarios: Advice from the Experts. *Strategy and Leadership*, Vol. 23, No. 5, pp. 33-35.

Schwartz, E., Principe, L. and Fonseca, B. (2002). Feds Raise Recovery Bar. *InfoWorld*, Vol. 24, Issue 36, p. 12.

Segal-Horn, S. (2004). The Modern Roots of Strategic Management. *European Business Journal*, Vol.16, Issue 4, pp. 133-142.



Sekaran, U. (2003). *Research Methods for Business: A Skill Building Approach*. 4<sup>th</sup> Edition. John Wiley and Sons.

Sekulić, V. (2002). The Importance of Corporate Strategic Processes in Managing Efficiency of Enterprise. *Series: Economics and Organization*, Vol. 1, No. 10, pp. 67 – 74.

Selden, S. and Perks, S. (2007). How a Structured BIA Aligned Business Continuity Management with Gallaher's Strategic Objectives. *Journal of Business Continuity and Emergency Planning*, Vol. 1, No. 4, pp. 348-355.

Semer, L. (1998). Disaster Recovery Planning for the Distributed Environment. *Internal Auditor*, Vol. 55, No. 6, pp. 41-47.

Shaluf, I., Ahmadun, F. and Said, A. (2003). A Review of Disaster and Crisis. *Disaster Prevention and Management*, Vol. 12, No.1, pp. 24-32.

Sheaffer, Z. and Mano-Negrin, R. (2003). Executives' Orientations as Indicators of Crisis Management Policies and Practices. *Journal of Management Studies*, Vol. 40, No. 2, pp. 573-606.

Simola, S. (2005). Organizational Crisis Management Overview and Opportunities. *Consulting Psychology Journal: Practice and Research*, Vol. 57, No. 3, pp. 180-192.

Smit, N. (2005). *Business Continuity Management: A Maturity Model*. Master's Thesis, Erasmus University, Rotterdam.

Smith, D. (Ed.) (2002). *Business Continuity Management: Good Practice Guidelines*. Caversham: Business Continuity Institute.

Smith, D. and the Business Continuity Institute (2003). *Business Continuity and Crisis Management*, pp. 1-8. The information is available [on-line] at: <[http://www.instan.org/student\\_info/reading\\_room/general\\_mgt\\_strategy/bci\\_business\\_continuity\\_planning.pdf](http://www.instan.org/student_info/reading_room/general_mgt_strategy/bci_business_continuity_planning.pdf)> [14/07/2009].

Smith, D., Elliott, D. and Irwin, A. (2002). Risk Management: Evolution in Action? *Risk Management: An International Journal*, Vol. 4, pp. 7-9.

Smith, M. and Sherwood, J. (1995). Business Continuity Planning. *Computer and Security*, Vol. 14, No. 1, pp. 14-23.

Sokol, R. (1992). Simplifying Strategic Planning. *Management Decision*, Vol. 30, No. 7, pp. 11-17.

SPRING Singapore (2005). TR19: 2005. *Technical Reference for Business Continuity Management (BCM)*. SPRING Singapore, Singapore.

Stanton, R. (2005). Beyond Disaster Recovery: the Benefits of Business Continuity. *Computer Fraud and Security*, Vol. 2005, No. 7, pp. 18-19.

Starr, R., Newfrock, J., and Delurey, M. (2002). Enterprise Resilience: Managing Risk in the Networked Economy. *Strategy and Business*, Vol. 30, pp. 73-79.

Stephen, P. and Hornby, S. (1995). The Joys of Statistics. *Library Review*, Vol. 44, No. 8, pp. 56-62.

Stokes, H. (2008). Planning for Disaster: Business Continuity Management. *Quality World UK*, Vol. 34, part 2, pp. 16-20.

Strategic Direction (2008). Plan for Disaster Before it Happens: Do Organizations Know How to Manage a Crisis? *Strategic Direction*, Vol. 24, No. 3, pp. 6-8.

Strohl Systems (2007). Business Continuity Planning Solution Overview. LDRPS 10 Launch -Jordan and Dubai. Presentation by: Steve Kokol-Strohl Systems, May 2007.

Sutcliffe, K.M. and Vogus, T. (2003). Organizing for Resilience, in K.S. Cameron, J.E. Dutton and R.E. Quinn (eds). *Positive Organizational Scholarship: Foundations of a New Discipline*, San Francisco: Berrett-Koehler, pp. 94-110.

Tamineedi, R. (2010). Business Continuity Management: A Standards-Based Approach. *Information Security Journal: A Global Perspective*, Vol. 19, Issue 1, pp. 36-50.

Tashakkori, A. and Teddlie, C. (2003). *Handbook of Mixed Methods in Social and Behavioral Research*. Sage.

Tchankova, L. (2002). Risk Identification-Basic Stage in Risk Management. *Environmental Management and Health*, Vol. 13, No. 3, pp. 290-297.

Then, S. and Loosemore, M. (2006). Terrorism Prevention, Preparedness, and Response in Built Facilities. *Facilities*, Vol. 24, No. 5/6, pp. 157-176.

Thompson, J. (1998). *Strategic Management: Awareness and Change*. 3<sup>rd</sup> Edition. International Thomson Business Press: London.

Toigo, J. (2000). *Disaster Recovery Planning: Strategies for Protecting Critical Information Assets*. 2<sup>nd</sup> Edition. Prentice Hall.

Toigo, J. (2002). *Disaster Recovery Planning: Preparing for the Unthinkable*. 3<sup>rd</sup> Edition. Prentice Hall.

Totty, P. (2009). Business Continuity: Test and Verify. *Credit Union Magazine*, Vol. 75, Issue 12, pp. 46-47.

Trim, P. (2003). Disaster Management and the Role of the Intelligence and Security Services. *Disaster Prevention and Management*, Vol. 12, No. 1, pp. 6-15.

Tsohou, A., Karyda, M., Kokolakis, S. and Kiountouzis, E. (2006). Formulating Information Systems Risk Management Strategies through Cultural Theory. *Information Management and Computer Security*, Vol. 14, No. 3, pp. 198-217.

Tura, N., Reilly, S., Narasimhan, S. and Yin, Z. (2004). Disaster Recovery Preparedness through Continuous Process Optimization. *Bell Labs Technical Journal*, Vol. 9, Issue 2, pp. 147–162.

Unimaps, (2007). Jordan, Map and Information. The information is available [on-line] at: < <http://unimaps.com/jordan/index.html>> [16/06/2008].

Vallender, C. (2009). Where does Business Continuity Planning Belong in an Organization. The information is available [on-line] at:<[http://www.disaster-resource.com/articles/08p\\_015.shtml](http://www.disaster-resource.com/articles/08p_015.shtml)> [03/06/2009].

Varcoe, B. (1998). Not us, surely? Disaster Recovery Planning for Premises. *Facilities*, Vol. 16, No. 7/8, pp. 204–207.

Verton, D. (2002). Disaster Recovery Planning Still Lags. *Computerworld*, Vol. 36, Issue 14, p. 10.

Verton, D. (2008). Study: Many companies lack disaster, continuity plans. The information is available [on-line] at:<<http://www.computerworld.com/securitytopics/security/recovery/story/0,10801,79014,00.html>> [24/11/2008].

Vila, J. and Canales, I. (2008). Can Strategic Planning Make Strategy More Relevant and Build Commitment Over Time? The Case of RACC. *Long Range Planning*, Vol. 41, Issue 3, pp. 273-290.

Vizard, M. (2008). Why there's No Business Continuity. *Baseline*, Issue 88, p. 18.

Wainwright, V. (2007). Business Continuity Management. Business Continuity by Design: Don't Let a Disaster Impair Your Facility's Performance. *Health Management Technology*, Vol. 28, Issue 3, pp. 20-21.

Wallach, E. (1983). Individuals and Organization: the Cultural Match. *Training and Development Journal*, Vol. 12, pp. 28-36.

Walsh, P. (2005). Dealing with the Uncertainties of Environmental Change by Adding Scenario Planning to the Strategy Reformulation Equation. *Management Decision*, Vol. 43, No. 1, pp. 113-122.

Wan, W. and Yiu, D. (2009). Research Notes and Commentaries. From Crisis to Opportunity: Environmental Jolt, Corporate Acquisitions, and Firm Performance. *Strategic Management Journal*, Vol. 30, No.7, pp. 791-801.

Wass, V. and Wells, P. (1994). *Principles and Practice in Business and Management Research*. UK: Dartmouth.

Waters, D. (2001). *Quantitative Methods for Business*. 3<sup>rd</sup> Edition. Prentice Hall.

Watstein, S. (2003). Scenario Planning for the Future of Reference: Five White Papers Posit the Future and Raise the Bar for Us All. *Reference Services Review*, Vol. 31, No. 1, pp. 36-38.

Weick, K.E. (1985). "The Significance of Corporate Culture", in Frost et al. (Eds), *Organizational Culture*. Sage Publications, Beverly Hills, CA, pp. 381-389.

Weiner, S. (2001). Managing Effective Disaster Recovery. *The CPA Journal*, Vol. 71, Issue 12, pp. 22-25.

Werther, W. (1995). Continuity Planning as a Dimension of Corporate Governance. *Human Resource Planning*, Vol. 18, Issue 4, pp. 22-29.

Wheelen, T. and Hunger, J. (2002). *Strategic Management and Business Policy*. 8<sup>th</sup> Edition. New Jersey: Prentice Hall.

Whelan, J. and Sisson, J. (1993). How to Realize the Promise of Strategic Planning. *Journal of Business Strategy*, Vol. 14, Issue 1, pp. 31-36.

White, J. (1984). Strategic Planning and the Small Business. *Industrial Management and Data Systems*, Vol. 84, Issue: 11/12, pp. 8-12.

Wieczorek, M., Naujoks, U. and Bartlett, B. (2002). *Business Continuity: IT Risk Management for International Corporations*. Springer.

Williamson, B. (2007). Trends in Business Continuity Planning. *Bank Accounting and Finance*, Vol. 20, Issue 5, pp. 50-52.

Wills, M. (1994). A Practical Guide to Managing the Training Process. *Managing the Training Process: Putting the Basics into Practice*. *Journal of European Industrial Training*, Vol. 18, No. 6, pp. 4-28.

Wilson, B. (2000). Business Continuity Planning: A Necessity in New E-commerce Era. *Disaster Recovery Journal*, Vol. 13, Issue 4, pp. 1-5.

Witty, R. (2008). Business Continuity Management Defined, 2008. Gartner, Inc. 23 July 2008. Research ID Number: G00159707, pp. 1-15.

Witte, K. and Muijen, J. (1999). Organizational Culture. *European Journal of Work and Organizational Psychology*, Vol. 8, No. 4, pp. 497-502.

Wojcik, J. (2002). Continuity Management Requires Commitment. *Business Insurance*, Vol. 36, Issue 17, p. 18.

Wong, W. (2009). The Strategic Skills of Business Continuity Manager: Putting Business Continuity Management into Corporate Long-term Planning. *Journal of Business Continuity and Emergency Planning*, Vol. 4, No. 1, pp. 62-68.

Woodman, P. (2007). Business Continuity Management. Chartered Management Institute, March 2007, pp. 1-17.

Woodman, P. (2008). Business Continuity Management 2008. Chartered Management Institute, March 2008, pp. 1-17.

Woodman, P. and Hutchings, P. (2010). Disruption & Resilience: The 2010 Business Continuity Management Survey. Chartered Management Institute, March 2010, pp. 1-28.

Woyzbun, R. (2008). The Evolution of Strategic Planning. The information is available [on-line] at: <[http://www.the-marketing-works.com/knowledge\\_center\\_papers.php](http://www.the-marketing-works.com/knowledge_center_papers.php)> [10/04/2008].

Wright, P., Kroll, M.J. and Parnell, J. (1996). *Strategic Management: Concepts and Cases*. 3<sup>rd</sup> Edition. Prentice-Hall: Englewood Cliffs, NJ.

Yip, G. (1985). Who Needs Strategic Planning?. *Journal of Business Strategy*, Vol. 6, Issue 2, pp. 30-42.

Zalud, B. (2008). News and Analysis. Carrying on After a Disaster. *Security*, Vol. 45, Issue 7, pp. 12-14.

Zar, J. (1972). Significance Testing of the Spearman Rank Correlation Coefficient. *Journal of the American Statistical Association*, Vol. 67, No. 339, pp. 578- 580.

Zawada, B. and Schwartz, J. (2003). Business Continuity Management Standards: A Side-by-Side Comparison. *Information Systems Control Journal*, Vol. 2, pp. 26-28.

Zawya (2009). Nearly 70% of Region's Businesses Lack Robust Business Continuity Planning. Press Release: December 01, 2009.

Zekos, G. (2004). Ethics versus Corruption in Globalization. *Journal of Management Development*, Vol. 23, No. 7, pp. 631-647.

## **APPENDIXES**

**Appendix -1-**  
**Research Questionnaire Covering Letter**

Ref: PY/OSFRL

20 January 2009

**TO WHOM IT MAY CONCERN**

**RE: MR IHAB SAWALHA**

**STUDENT NO: 0775452**

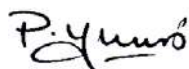
I confirm that Mr. Sawalha is registered as a full-time research student at the University of Huddersfield Business School undertaking a program of work leading to the award of '*Doctor of Philosophy*'.

Mr. Sawalha will be returning to Jordan in order to conduct necessary fieldwork for his research project for a period of up to four months. Mr. Sawalha will be contacting Jordanian companies to conduct his fieldwork.

After conducting of the fieldwork, Mr. Sawalha will return to the UK to resume his studies and continue with his research program.

If you require any further information, please do not hesitate to contact me.

Yours sincerely,



**Mrs. Parveen Yunis,  
Financial Administrator  
(Reach-Out, Enterprise)  
The Business School**

**Tel: 01484 472640**

**E-mail: p.yunis@hud.ac.uk**

**Fax no: 01484 473148**

## Appendix -2-

### Covering Letter

من: المهندس ايهاب صوالحه

الى: السادة/ مدراء الشركات الاردنية المحترمين

الموضوع: استبيان رسالة دكتوراه في جامعة هدرسفيلد/ بريطانيا- المملكة المتحدة

المحتوى: استبيان خاص بموضوع ادارة استمرارية الاعمال و التخطيط الاستراتيجي

#### تحية طيبة و بعد

يرجى من السادة مدراء الشركات الاردنية التعاون معي في اكمال الاستبيان الخاص برسالة الدكتوراه  
ولكم جزيل الشكر

ملاحظة: سوف اقوم شخصيا بالقدوم الى مقر الشركة في حال اخذ موافقتكم على مساعدتي

الاستبيان مرفق بالرسالة

المهندس ايهاب صوالحه

مادبا-الاردن

ihabhs@hotmail.co.uk

خلوي 0797317853



Translation of the covering letter of Appendix -2-

**From:** Eng. Ihab Sawalha

**To:** Managers of Jordanian organizations

**Subject:** Research questionnaire for a PhD thesis at the University of Huddersfield/ England, UK.

**Content:** Research questionnaire regarding Business Continuity Management and Strategic Planning.

Greetings

Kindly, it is required from the managers of Jordanian organizations to cooperate with the researcher in completing the questionnaire of the PhD thesis. With many thanks for you all.

Note: I will visit your organization's headquarter in person if I take your permission to help me conducting the research questionnaire.

Please find attached the research questionnaire.

Eng. Ihab Sawalha

Madaba-Jordan

ihabhs@hotmail.co.uk

Mobile phone number: 0797317853

**Appendix -3-**  
**Research Questionnaire**























## **Appendix -4-**

### **Interview questions**

- 1.** Regarding the BCM practices you have already reported in the research questionnaire in section 3.7, is there any extra attention given to particular activities that would seem to be related particularly to your type of business and practised in your organization?
- 2.** Do you think that the integration of BCM with SP improved any possible vulnerability –if it exists- in your SP or enhanced its capacity to achieve organizational purposes, most importantly, managing unexpected disasters and crises?
- 3.** Seeing BCM as a strategic entity in your organization, what were the major steps that have been undertaken to raise BCM to a strategic level?
- 4.** How was the integration of BCM and SP achieved in terms of the organizational culture and teams?
- 5.** In addition to the factors you have listed in the questionnaire in section 4.3; please explain in more detail the main factors that encouraged the greatest the integration of BCM with SP in your organization.

## Appendix -5-

### Responses to all interview questions according to each respondent

**Respondent A:** Administration Manager of a service organization. This organization is an IT solutions provider.

The respondent reported that there is a high focus on IT continuity, the development of various back up strategies, as well as recovery planning in the organization. The organization is one of the leading organizations in the IT services sector and has a large number of customers who have to be protected and served. Since the organization is exposed primarily and very often to IT risks, integrating BCM with SP helped the organization to develop multiple future scenarios based on understanding various IT disruptions. Placing BCM in the context of SP was achieved by making BCM one of the responsibilities of senior management. BCM is therefore based on enterprise-wide effort and requires the involvement of all internal departments. Information related to BCM is regularly communicated to all departments and shared by all employees, and activities related to BCM are trained on a regular basis. As a result, every department has assigned a group of people that are responsible for carrying out BCM procedures especially in the time of emergency. Protecting and maintaining customers were the major drivers for integrating BCM with SP since the organization is aware of the high level of rivalry that exists among IT service providers in Jordan.

**Respondent B:** General Manager of an industrial organization. The organization is a heavy metal manufacturer that operates on a mass production scale.

The respondent reported that the organization has developed and documented preventive and corrective procedures to be used to counteract impacts of disasters and crises. A management review committee was also created in order to review these procedures on a monthly basis. In addition, the organization follows the guidelines introduced in the ISO, which are related to its type of business as a way of compliance to global standards of best practice. The organization has a strategic plan that consists of 3-phases in which the final phase entails providing feedback and evaluation of any possible weaknesses in SP. BCM is used to enhance these weaknesses in the planning processes. A number of steps

have been undertaken in order to raise BCM to a strategic level, such as: having BCM as a responsibility of senior management; extending the capacity of BCM to cover all types of possible disasters and crises; and encouraging all internal departments to participate in the BCM. Moreover, continuous and extensive BCM training programs are carried out on a regular basis. The respondent also explained that the need for having a clear understanding of the future was one of the main reasons for integrating BCM with SP because the organization is trying to expand its market reach.

**Respondent C:** Operational risk and compliance manager of a national bank.

The respondent reported that banks in Jordan are transforming many of their manual operations to electronic operations in order to enhance customer service and protection. Therefore, there is a focus on the IT aspect of BCM, as well as physical security. Moreover, compliance to the regulations of the Central Bank of Jordan and the adoption of the ISO17799 and Basel II guidelines are crucial in the practice of BCM and helped to embed BCM in the culture of the organization.

The bank has a strategic plan that clarifies its mission, vision, position in the market, competitive strategies, and its future direction. However, it does not show the necessary procedures required to be undertaken in the event of a disaster or crisis. Therefore, integrating BCM with SP enhanced this vulnerability.

A number of steps were undertaken in order to place BCM in the context of SP. First, all employees were involved in BCM and had particular roles to play. Second, a budgetary plan for training, exercising, and testing BCM was created. Third, the CEO is directly responsible for BCM. Fourth, a BCM department was established. Fifth, specialized teams were created in order to carry out BCM procedures, and sixth, auditing and monitoring of the continuity plans are performed regularly.

The bank took the decision to integrate BCM with SP as they both help to understand future direction and enhance the bank's capability to predict, prevent, and recover from disasters and crises. In addition, BCM and SP have common aims, such as reducing risk; achieving vision; and scanning the business environment. Placing BCM in the context of SP helps to bridge the different areas of business and improved corporate coordination.

**Respondent D:** General Manager of a leading insurance organization.

The respondent reported that for every insurance organization in Jordan, there is a security and risk reduction policy that aims to reduce risk and financial burdens by transferring them to bigger insurance organizations, also known as “re-insurance”. Reinsurance is considered a primary activity in BCM and aims to reduce potential financial losses. The reinsurance policy is documented as part of overall BCM strategy. Other activities that are often carried out as part of BCM include the collaboration and the development of joint ventures between various insurance organizations in order to share financial burdens.

The general manager reported that SP is used in his organization; however, like some other insurance organizations in Jordan, the strategic plan focuses on issues of market penetration, positioning, how to reach customers, and rivalry. Less attention is drawn to issues of risk, disasters and crises in SP. For this reason, the organization decided to link BCM with SP in order to enhance the planning processes and to protect its reputation.

Risk prevention, reduction and recovery planning are significant to the organization and practised on a daily basis, in contrast to some other Jordanian insurance organizations. BCM is the responsibility of the General Manager, as well as the Risk Manager. A risk management department was created in order to take responsibility of BCM and reports directly to the General Manager and the board of directors. The risk management department employs a number of employees who are responsible for performing risk assessment and business impact analysis. A team of employees was formed led by the general manager for the purpose of enhancing and encouraging BCM practice within the entire organization. In addition, part of the organization’s budget is dedicated to educating, exercising and training employees of BCM best practice.

The general manager also reported that senior management decided to raise BCM to a strategic level based on understanding potential risks of the Jordanian business environment and the increasing population and customers who registered with the organization recently. The organization’s strategic plan was re-evaluated recently and then modified in order to accommodate the changes of the Jordanian and global business environment.



**Respondent E:** Administration Manager of an industrial organization.

The respondent reported that since his organization is specialized in heavy industry, a large focus on the human aspect of BCM has been made. Securing and protecting employees, who are one of the most significant resources, is considered a priority in BCM. Preventive and corrective procedures were developed in order to prevent or reduce impacts of disasters and crises on people, and recovery procedures were developed in order to reduce potential damage following any unexpected event. Moreover, evacuation procedures are considered priorities in BCM since most of the employees work with the industrial plant and are exposed to higher levels of risk compared to employees in other parts of the organization. Therefore, those employees were trained on the use of safety and evacuation procedures especially when they feel they are threatened.

The respondent also reported that since the industry sector is associated with the highest level of risk compared to other sectors in the long term and the short term, managing risk is considered very significant to the well-being of the organization. Therefore, integrating BCM with SP empowered the organization's capability to cope with and manage different potential disasters and crises. Two main steps were carried out to raise BCM to a strategic level. First, the training of all employees on different aspects of BCM; and second, senior management's responsibility for BCM. The organization prepared budget plans for BCM and every department was asked to provide the senior management with a copy of its own BCM procedures. The overall BCM documentation was then gathered which clarifies the BCM procedures for the entire organization. As a result, all business areas were covered and protected.

Moreover, all employees within their own departments were trained on how to act during a disaster or a crisis. Small teams from each business area (department) were formed in order to take the responsibility of the daily aspects of BCM, and a larger team was formed in order to take the responsibility for the long-term aspects of BCM. Protecting employees was the major driver for integrating BCM with SP since the injury or absence of any employee will affect the flow of business operations and may possibly cause disruption.

**Respondent F:** Risk Manager of an industrial organization.

The respondent reported that one of the most significant BCM activities is the training of employees since the organization is exposed to a wide range of risks on a daily basis. Moreover, spreading the knowledge of BCM amongst all employees and setting budgetary plans for educating employees have similar significance and are considered priorities in BCM. BCM focuses on analyzing risk, its probability and frequency of occurrence. It also focuses on ensuring the existence of proactive business continuity planning to prevent disasters from taking place, disaster recovery planning and ensuring effective backup for all sensitive information assets and action plans. The company also takes in to account all possible risks that are likely to occur even if the probability of this risk is 0.001 since the cost of fixing any damage to the machinery or any loss of information will be very high. All these issues were included in the company's strategic plan in order to enhance its ability to manage disaster and crisis situations. Two main procedures were undertaken to raise BCM in to a strategic level. First, all business areas were involved in BCM in order to reduce the possibility of discontinuity or damage to any part of business. Second, training and educating employees for their roles in BCM. The respondent also reported that since the company is the only one that supplies the entire country with electrical power, it is therefore, important to take in to account even the risks that seem less likely to occur, since any risk is likely to cause disruption and, hence, an entire geographical region will be out of electricity. Therefore, reducing or preventing risks from happening were the major drivers for integrating BCM with SP.

**Respondent G:** An administration manager of financial services organization.

The respondent reported that the organization has been practising BCM for more than five years. BCM is practised mainly to protect the company's financial assets. In the company's approach to BCM, compliance with the regulations of the Central Bank of Jordan is significant and shapes the overall framework of its BCM practice. Moreover, there is a particular focus on developing backup and data recovery strategies and solutions for the company's data and customer information since losing such information will be catastrophic and entail huge financial losses. The organization has a strategic plan that addresses all types of risks that are likely to impact the organization. However, the integration of BCM with SP provided an additional insight into the strategic plan as it provided solutions for all these risks and ensured that the continuity and recovery planning are practiced on a regular basis. Both BCM and SP are responsibilities of senior management, as well as the board of directors. BCM is also practiced in accordance to the latest regulations of the Central Bank of Jordan, which in turn, is committed to compliance with global regulations and best practice in the field of BCM. There exists a team which is responsible for BCM. The team's role is to regularly assess present and future potential risks and provide feedback to senior management. Moreover, the team is responsible for assessing the business environment and implementing productive action plans. Mainly protecting the company's financial assets was the reason for integrating BCM with SP since the majority of potential risks arise from threats to financial assets.

**Respondent H:** Deputy General Manager and Secretary of the Board of a financial service organization.

The respondent reported that like other Jordanian financial service organizations, this organization focuses on developing back up and data recovery strategies in order to secure customer financial profiles. Moreover, the organization's approach to BCM follows the Central Bank of Jordan's guidelines and complies with other international standards, such as the Basel II. Adopting a strategic approach to BCM empowered the organization's SP and helped in raising awareness of risk and the ways it should be managed. It also improved the organization's preparedness to disasters and crises and helped to locate business critical functions. BCM is an issue of regular discussion when the board of directors meets and continuous maintenance and development for BCM take place. BCM is the responsibility of senior management and all departments involved in BCM report directly to senior management. In addition, BCM is the responsibility of all other departments including finance, IT, risk, human resources and public relations. Each of these departments has its own BCM team that meets with the rest of the teams on a regular basis to discuss issues related to BCM and update plans. The organization also encourages all its employees to follow the procedures written in the business continuity plan in their daily operations. The most encouraging factor that made the senior management integrate BCM with SP is protecting customers, their financial savings, and profiles since losing such information will result in losing customers and affect the reputation of the organization.

**Respondent I:** A marketing manager and a member of the senior management of a service organization.

The respondent reported that the organization has been practising BCM for more than five years using people from inside the organization. The company focuses mainly on the development of business continuity plans and the updating of these plans in order to prevent or reduce the impacts of disasters and crises since the company has experienced large scale disasters in the past few years.

Integrating BCM with SP helped the organization to focus on the risk side in its planning, as well as the threats that can arise from both the internal and external business environments. It also encouraged the senior management to regularly scan the business environment in order to counteract threats to corporate reputation and understand competitors.

BCM is the responsibility of senior management and the board of directors. Following each meeting of the board of directors, all decisions regarding BCM are communicated down the organization for implementation via small teams. The factors that encouraged the greatest senior management to place BCM in the context of SP were the lessons learned from previous disruptions, which had many negative impacts on the organization and its business operations.

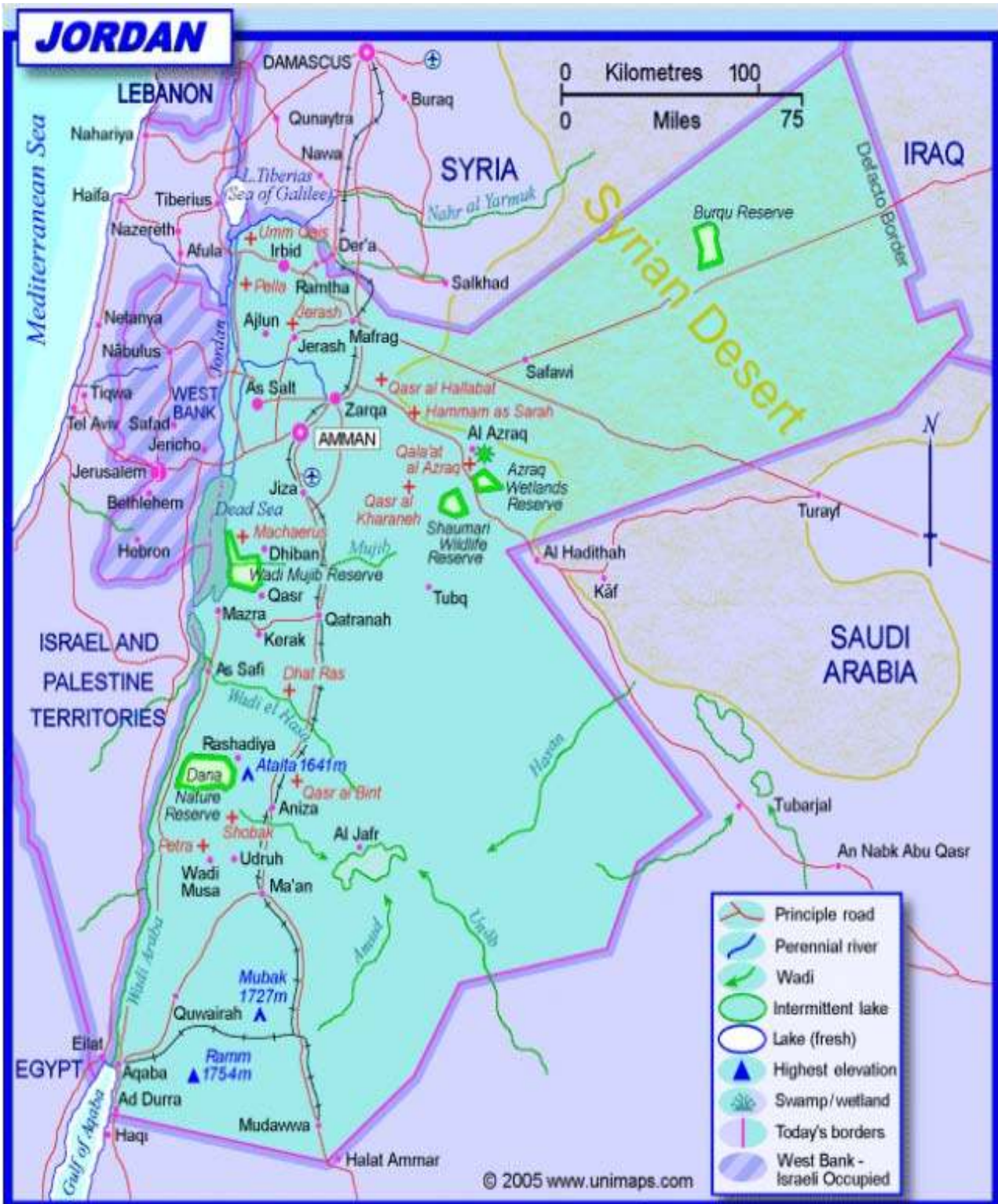
**Respondent J:** A deputy General Manager of a service organization.

The respondent reported that because his organization depends greatly on the continuous use of machinery, BCM is highly significant. The respondent reported that ensuring continuous running of machinery and maintaining communications with material suppliers are significant as part of the daily practice of BCM. Since the organization's SP does not focus on issues, such as ensuring the existence of proactive business continuity planning and ensuring effective recovery following unexpected incidents and draws less attention to the scanning of the business environment, integrating BCM with SP helped to address all these issues in the organization's strategic plan, and therefore improving it to be more prepared for future unexpected incidents.

Since the risk associated with the organization's type of business was high, BCM has become a responsibility of senior management and the approach to BCM adopted covers almost all potential risks, disasters and crises that are likely to happen. BCM is practised on a daily basis in order to ensure all operations are running smoothly. Ensuring continuous running of operations was the main driver for placing BCM in the context of SP since the organization is one of the leading news agents in the market and provides the public with one of the most popular daily newspapers. Consequently, any disruption occurs to machinery and systems will negatively impact customers and profitability.

## Appendix -6-

### Geographical Map of Jordan



Source: Unimaps (2007).













## Business Continuity Management Questionnaire 2009

استبانة ادارة استمرارية الاعمال ٢٠٠٩

## Section One: Organization Profile

## القسم الاول : معلومات عامة

Please read the following definition before completing Section One.

**Strategic Planning:** is the process of developing the direction and scope of an organization over the long term which achieves advantages for the organization through its configuration of resources within a changing environment to meet the needs of markets and fulfil shareholders expectations.

الرجاء قراءة التعريف التالي قبل تعبئة القسم الاول

**التخطيط الاستراتيجي:** هو عملية تطوير الاتجاه و الرؤية العامة للمؤسسة للمدى الطويل و الذي يحقق فوائد للمؤسسة عن طريق تنسيق و تشكيل الموارد في بيئة الاعمال المتغيرة و ذلك لتلبية احتياجات الاسواق و تطلعات المساهمين.

1.	What is your TITLE?	<input type="text"/>	ما هو مركزك الوظيفي؟	.1
2.	How many EMPLOYEES does your organization currently employ?	<input type="text"/>	كم عدد العاملين في الشركة في الوقت الراهن؟	.2
3.	How many YEARS has your organization been involved in strategic planning?	<input type="text"/>	كم تقدر عدد سنوات الخبرة منذ قيام الشركة بوضع اول وثيقة للتخطيط الاستراتيجي؟	.3
4.	What is the age of the organization in YEARS?	<input type="text"/>	ما هو عمر الشركه بالسنوات؟	.4
5.	Which of the following categories best represents your organization's INDUSTRY? Please tick 1 box.		في أي من القطاعات الصناعية التالية يمكن ان تصنف شركتكم؟ الرجاء وضع اشارة (√) في مربع واحد فقط.	.5
	Industrial	<input type="checkbox"/>	صناعي	
	Banking	<input type="checkbox"/>	بنوك	
	Insurance	<input type="checkbox"/>	تامين	
	Service	<input type="checkbox"/>	خدمات	

6.	Which of the following type of shareholders represents your organization's OWNERSHIP? Please tick 1 box.	الى اي من القطاعات التاليه يمكن ان تصنف ملكية شركتكم؟ الرجاء وضع اشارة (√) في مربع واحد فقط.	.6
	Private- individuals or other private organizations <input type="checkbox"/>	قطاع خاص - اشخاص او شركات خاصة أخرى. <input type="checkbox"/>	
	Government <input type="checkbox"/>	قطاع حكومي <input type="checkbox"/>	

7.	How do you describe the level of risk associated with your organization's type of business? Please tick 1 box.	كيف تصف مستوى الخطر المرافق لنوعية اعمال الشركة الرجاء وضع اشارة (√) في مربع واحد فقط.	.7
	<input type="checkbox"/> Very Low منخفض جدا	<input type="checkbox"/> Low منخفض	<input type="checkbox"/> High مرتفع
	<input type="checkbox"/> Medium متوسط	<input type="checkbox"/> Very High مرتفع جدا	

<b>Section Two: The Purpose of Strategic Planning</b>	<b>القسم الثاني: الغاية من التخطيط الاستراتيجي</b>
---	--

1.	Please describe the importance of strategic planning for each of the following organizational purposes. Please circle the appropriate number on the scale provided.	الرجاء توضيح مدى اهمية عملية التخطيط الاستراتيجي في تحقيق كل من الاهداف المؤسسية التالية, الرجاء وضع دائره حول الرقم الاكثر ملائمة.	.1					
	<table border="1"> <tr> <td>1 Not important غير مهم</td> <td>2 Slightly important مهم بشكل قليل</td> <td>3 Moderately important متوسط الأهمية</td> <td>4 Very important مهم جدا</td> <td>5 Extremely important شديد الأهمية</td> </tr> </table>	1 Not important غير مهم	2 Slightly important مهم بشكل قليل	3 Moderately important متوسط الأهمية	4 Very important مهم جدا	5 Extremely important شديد الأهمية		
1 Not important غير مهم	2 Slightly important مهم بشكل قليل	3 Moderately important متوسط الأهمية	4 Very important مهم جدا	5 Extremely important شديد الأهمية				
	Achieving sustainable competitive advantage	1	2	3	4	5	تحقيق ميزة تنافسية دائمة	
	Motivating innovation and creation	1	2	3	4	5	تحفيز الابداع و الابتكار	
	Implementing productive action plans	1	2	3	4	5	تنفيذ خطط عمل منتجة	
	Ensuring ongoing growth and success	1	2	3	4	5	ضمان النمو و النجاح المستمر	
	Identifying various types of risks facing the organization	1	2	3	4	5	تحديد الانواع المختلفة للاخطار التي يمكن ان تواجه الشركة	
	Scanning business environment	1	2	3	4	5	فحص بيئة الاعمال	
	Ensuring the existence of proactive business continuity planning	1	2	3	4	5	ضمان تواجد التخطيط المسبق لاستمرارية الاعمال	
	Ensuring effective recovery after a disaster/crisis	1	2	3	4	5	ضمان التعافي الفعال بعد حدوث الكارثة/الازمة	

### Section Three: The Practice of Business Continuity Management

### القسم الثالث: ممارسات ادارة استمرارية الاعمال

Please read the following definition before completing section 3.

**Business Continuity Management:** is the act of anticipating future events that may affect the organization's critical functions in order to ensure the organization's capability to respond effectively to such events in a planned manner and increase resilience to interruption and loss. The process involves the following activities:

1. Business continuity planning
2. Disaster recovery planning

الرجاء قراءة التعريف التالي قبل تعبئة القسم الثالث

ادارة استمرارية الاعمال: هي عملية توقع الاحداث المستقبلية و التي يمكن ان يكون لها تاثير على الوظائف الأساسية للمؤسسة بهدف ضمان قدرة المؤسسة على التعامل الفعال مع هذه الاحداث بطريقة مخططة, و زيادة مناعة المؤسسة ضد الاعطال و الخسائر و هذه العملية تتضمن:

1. تخطيط استمرارية الاعمال
2. تخطيط التعافي من الكوارث

1. In conducting business continuity management process, please describe your organization's behaviour. Please tick 1 box.

The organization conducts BCM internally; using internal employees only.

The organization conducts BCM externally; using external consultants only.

The organization conducts BCM internally and externally.

The organization does not conduct BCM at all.

1. عند القيام بعملية إدارة استمرارية الاعمال, الرجاء وصف سلوك الشركة. الرجاء وضع اشارة عند مربع واحد فقط.

تقوم الشركة بهذه العملية داخلياً بواسطة موظفي الشركة فقط.

تقوم الشركة بهذه العملية خارجياً عن طريق مستشارين خارجيين فقط.

تقوم الشركة بهذه العملية داخلياً وخارجياً.

لا تقوم الشركة بهذه العملية إطلاقاً.

Please indicate how long your organization has had a business continuity management programme in place. Please tick 1 box.

Less than 1 year

1 to 5 years

Greater than 5 years

منذ متى ولدى شركتكم برنامج لإدارة استمرارية الاعمال. الرجاء وضع اشارة (√) في مربع واحد فقط.

أقل من سنة واحدة.

من سنة إلى خمس سنوات.

أكثر من خمس سنوات.

2.

Which of the following statements best describes the level of maturity of the business continuity management in your organization? Please tick 1 box.

اي من الجمل التالية تصف درجة نضوج ادارة استمرارية الاعمال في الشركة؟  
الرجاء وضع اشارة (√) في مربع واحد فقط.

3.	Business continuity management covers just technical operational aspects of the organization.	<input type="checkbox"/>	تغطي إدارة استمرارية الأعمال النواحي التقنية التشغيلية فقط للشركة.	.3
	Business continuity management covers technical interruptions across the organization.	<input type="checkbox"/>	تغطي ادارة استمرارية الاعمال الأعطال التقنية في كامل الشركة.	
	Business continuity management covers socio-technical interruptions across the organization.	<input type="checkbox"/>	تغطي إدارة استمرارية الأعمال الأعطال الاجتماعية-التقنية في كامل الشركة.	
	Business continuity management can be termed “strategic oriented” in your organization.	<input type="checkbox"/>	يمكن أن يطلق على إدارة استمرارية الأعمال لقب "موجهة استراتيجيا" في الشركة.	

4.	Please indicate who takes the responsibility for business continuity management in your organization.		الرجاء تحديد من تقع على عاتقه مسؤولية إدارة استمرارية الأعمال في الشركة.	.4
	Senior management	<input type="checkbox"/>	الإدارة العليا	
	Board of directors	<input type="checkbox"/>	مجلس الإدارة	
	Business continuity management team	<input type="checkbox"/>	كادر ادارة استمرارية الاعمال	
	Operational staff	<input type="checkbox"/>	الكادر التشغيلي	
	Operational risk department	<input type="checkbox"/>	دائرة المخاطر التشغيلية	

Please specify the level of participation of each of the following departments in business continuity management in your organization. Please circle the most appropriate number on the scale provided.

الرجاء تحديد مستوى مشاركة كل من الدوائر التالية في عملية ادارة استمرارية الاعمال في الشركة, الرجاء وضع دائره حول الرقم الاكثر ملائمة.

5.	0	1	2	3	4	5	.5
	Department does not exist الدائرة غير موجودة	Not a participant غير مشارك	Minor participant مشارك ثانوي	Moderate Participant مشارك متوسط	Major Participant مشارك رئيسي	Full Participant مشارك بشكل تام	



IT department	0	1	2	3	4	5	دائرة تكنولوجيا المعلومات.
Financial department	0	1	2	3	4	5	الدائرة المالية.
Risk or business continuity department	0	1	2	3	4	5	دائرة المخاطر او ادارة استمرارية الأعمال.
Security department	0	1	2	3	4	5	دائرة الأمن.
Human resources department	0	1	2	3	4	5	دائرة الموارد البشرية.
Health and Safety department	0	1	2	3	4	5	دائرة الصحة و السلامة.
Public relations department	0	1	2	3	4	5	دائرة العلاقات العامة.
Marketing department	0	1	2	3	4	5	دائرة التسويق.
Other, (please specify).....	0	1	2	3	4	5	أخرى (الرجاء حددتها) .....

This question examines the comprehensiveness of business continuity management. When implementing business continuity management programme in your organization, how concerned are you about the unfavourable impacts of disasters/crises on the following elements of the organization. Please circle the most appropriate number for all the following elements.

هذا السؤال يختبر مدى شمولية منهج ادارة استمرارية الاعمال. عند تصميم منهج لادارة استمرارية الاعمال في الشركة، الى اي درجة تهتم أنت بالعواقب السلبية التي تسببها الكوارث و الازمات على كل من العناصر المؤسسية التالية، الرجاء وضع دائره حول الرقم الاكثر ملائمة لجميع العناصر التالية.

6.	1 Not concerned غير مهتم	2 Slightly concerned مهتم قليلا	3 Moderately concerned مهتم بصورة متوسطة	4 Very concerned مهتم جدا	5 Extremely concerned مهتم بشدة.	.6		
	IT systems	1	2	3	4		5	تكنولوجيا المعلومات
	Employees	1	2	3	4		5	الموظفون
	Processes	1	2	3	4		5	العمليات المؤسسية
	Infrastructure	1	2	3	4		5	البنية التحتية
	Physical assets ( premises and facilities)	1	2	3	4		5	الممتلكات المادية (المباني والمرافق)
	Customers	1	2	3	4		5	الزبائن
	Suppliers and third parties	1	2	3	4		5	الموردون والأطراف الثالثة
	Corporate reputation	1	2	3	4		5	السمعة المؤسسية

When deciding to implement a business continuity management programme which includes business continuity planning and disaster recovery planning in your organization, please indicate the importance of each of the following practices on the effectiveness of the business continuity management approach. Please circle the most appropriate number on the scale provided.

عند اتخاذ قرار بشأن تنفيذ برنامج لإدارة استمرارية الأعمال في الشركة و الذي يتضمن التخطيط لاستمرارية الأعمال و التخطيط للتعافي من الكوارث, يرجى تحديد مدى أهمية كل من الممارسات التالية على فعالية منهج إدارة استمرارية الأعمال , الرجاء وضع دائره حول الرقم الأكثر ملائمة.

7.	1	2	3	4	5	.7
	Not important غير مهم	Slightly important مهم قليلا	Moderately important مهم	Very important مهم جدا	Extremely important شديد الأهمية	
	Project planning					التخطيط للمشروع.
	Create teams and assign roles and responsibilities					خلق الفرق و تحديد المهام و الوظائف.
	Perform risk analysis process					تنفيذ عملية تحليل المخاطر.
	Perform Business Impact Analysis					تنفيذ عملية تحليل أثار المخاطر على الأعمال.
	Develop backup and data recovery strategies					تطوير استراتيجيات عمل نسخ من ملفات المعلومات للاحتياط.
	Develop disaster recovery plan					تطوير خطة التعافي من الكوارث.
	Develop business continuity plan					تطوير خطة استمرارية الأعمال.
	Periodic testing of the developed plans					الفحص الدوري للخطة الموضوعه.
	Periodic maintenance of the developed plans					الصيانة الدورية للخطة الموضوعه.
	Periodic updating of the developed plans					التحديث الدوري للخطة الموضوعه.
	Periodic training of the employees					التدريب الدوري للموظفين.

**Section Four: Factors influencing the organizational decision to integrate business continuity management with strategic planning.**

**القسم الرابع: العوامل المؤثرة على القرار المؤسسي بشأن دمج ادارة استمرارية الاعمال مع التخطيط الاستراتيجي.**

1.

When undertaking the decision to integrate business continuity management with strategic planning, please describe how influential each of the following factors is on the decision making process in your organization.

عند اتخاذ قرار بشأن دمج ادارة استمرارية الاعمال مع التخطيط الاستراتيجي في الشركة، الرجاء تحديد مدى تأثير كل من العوامل التالية على عملية اتخاذ القرار، الرجاء وضع دائره حول الرقم الاكثر ملائمة.

1.

1 Not influential غير مؤثر	2 Slightly influential مؤثر قليلا	3 Moderately influential مؤثر	4 Very influential مؤثر جدا	5 Extremely influential مؤثر بشدة	
					وعي الادارة العليا.
					توفر المهارات البشرية.
					المخاوف بشأن المخاطر التكنولوجية.
					المخاوف بشأن المخاطر الاقتصادية.
					المخاوف بشأن المخاطر السياسية كالإرهاب.
					المخاوف بشأن المخاطر الطبيعية.
					الامتثال للقوانين كالقانون المدني، المقياس البريطاني ٢٥٩٩٩ و بازل ( 2 )
					المخاوف بشأن قوى العولمة.
					المخاوف بشأن الاخطار المؤسسية الداخلية.
					الحاجة للاستعداد للكوارث غير المتوقعة.
					الحاجة للتعافي الفعّال بعد حدوث الكوارث.
					المخاوف بشأن المخاطر البيولوجية كحمى انفلونزا الطيور.
					الامتثال لأنظمة إدارة الشركات

Availability of organizational infrastructure	1	2	3	4	5	توفر البنية التحتية المؤسسية.
Availability of budgets	1	2	3	4	5	توفر الميزانيات.
Availability of time	1	2	3	4	5	توفر الوقت.
Concerns about maintaining customers.	1	2	3	4	5	مخاوف بشأن الحفاظ على الزبائن.
Concerns about social risk	1	2	3	4	5	المخاوف بشأن المخاطر الاجتماعية.

2.	<p>What factors do you believe strongly discourage the decision to integrate business continuity management with strategic planning in your organization? (i.e. what causes your organization not to take this decision)?</p>	<p>ما العوامل التي تعتقد بانها لن تشجع بشده قرار دمج ادارة استمرارية الاعمال مع التخطيط الاستراتيجي في الشركه (ما هي اسباب عدم اتخاذ شركتكم لهذا القرار)؟</p>	.2
	a) .....	..... (ا)	
	b) .....	..... (ب)	
	c) .....	..... (ج)	
	d) .....	..... (د)	

3.	<p>What factors do you believe strongly encourage the decision to integrate business continuity management with strategic planning in your organization? (i.e. what causes your organization to take this decision)?</p>	<p>ما العوامل التي تعتقد بانها سوف تشجع بشده قرار دمج ادارة استمرارية الاعمال مع التخطيط الاستراتيجي في الشركه (ما هي الاسباب الكامنة وراء هذا القرار)؟</p>	.3
	a) .....	..... (ا)	
	b) .....	..... (ب)	
	c) .....	..... (ج)	
	d) .....	..... (د)	

**Section Five: The comprehensiveness and integration of business continuity management.**

**القسم الخامس: شمولية و اندماج ادارة استمرارية الأعمال.**

1. Based on the lessons learned from previous disasters and crises, how do you describe the importance of having a fully comprehensive/ integrated business continuity management in your organization? Please tick 1 box.

Not Important  
غير مهم

Slightly Important  
مهم قليلا

Important  
مهم

1. بناء على الدروس المستفادة من الكوارث/الازمات السابقة، كيف تصف اهمية امتلاك منهج شامل و مدمج لادارة استمرارية الاعمال في شركه؟  
الرجاء وضع اشارة (√) في مربع واحد فقط.

Very Important  
مهم جدا

Extremely Important  
مهم بشدة

2. When do you intend to produce a fully comprehensive/ integrated business continuity management programme in your organization? Please tick 1 box.

Already exists

In the next year

In 1-2 years

After 2 years

Do not intend to have one

2. متى تنوي الشركه القيام بوضع منهج شامل و مدمج لادارة استمرارية الاعمال؟  
الرجاء وضع اشارة (√) في مربع واحد فقط.

المنهج موجود الآن.

في السنة القادمة

خلال سنة إلى سنتين.

بعد السنتين القادمتين.

لا يوجد نية للشركة لانتاج منهج لادارة استمرارية الأعمال.

3. Where business continuity management is not fully comprehensive and integrated, which of the following statements describes your organization's decision not to have fully integrated business continuity management?

Conscious decision to exclude specific business area

Not considered necessary

Risk considered low

Insufficient resources

Other, (please specify),.....

3. في حال عدم كون ادارة استمرارية الاعمال شاملة و مدمجة كلياً، اي من العبارات التالية يصف قرار الشركه بشأن عدم امتلاك منهج شامل و مدمج لادارة استمرارية الاعمال.

قرار مؤسسي واعى بشأن استثناء مجالات اعمال معينة.

لا تعتبر ضرورية.

تعتبر نسبة الخطر منخفضة.

عدم توفر الموارد الكافية.

أخرى، (الرجاء التحديد) .....

For the following statements, please circle the number that best describes your view from the scale provided.

في العبارات التالية، الرجاء وضع دائرة حول الرقم الذي يصف وجهة نظركم بشكل أفضل.

4.	1	2	3	4	5	.4	
	Strongly Disagree لا اوافق بشدة	Disagree لا اوافق	Neutral محايد	Agree موافق	Strongly Agree موافق بشدة		
	Business continuity management process is an extra burden to business.	1	2	3	4	5	تعتبر عملية إدارة استمرارية الأعمال عبء إضافي على الشركة.
	There is a potential for business continuity management to be integrated with strategic planning in your organization.	1	2	3	4	5	هناك امكانية لدمج عملية ادارة استمرارية الاعمال مع التخطيط الاستراتيجي في الشركة.
	Business continuity management will help your organization cope with various types of disasters and crises if it is integrated with strategic planning.	1	2	3	4	5	سوف تساعد إدارة استمرارية الأعمال الشركة على التعامل مع مختلف الكوارث/الازمات في حال دمجها مع التخطيط الاستراتيجي.
	Business continuity management is an integral part of the organization's approach to risk.	1	2	3	4	5	تعتبر إدارة استمرارية الأعمال جزء لا يتجزأ من أسلوب الشركة في التعامل مع الأخطار.

### Ending notes

### ملاحظات ختامية

1.	Please write any comments that you think will be helpful to this research.	الرجاء تدوين اية ملاحظة ترى انها قد تكون مفيدة لهذه الدراسة.	.1
	.....		
	.....		
	.....		
	.....		

**Thank You for Your Time and Help**

شكرا جزيلا على المساعدة

**Director**

**Researcher**

Dr. Julia Meaton  
Head of Huddersfield University Sustainability Centre/MSc  
Risk, Disaster & Environmental Management Course Leader  
tel: +44 (0) 1484 472949  
fax: +44(0)1484 472633  
email: j.meaton@hud.ac.uk

Ihab Sawalha, Doctoral research student  
Madaba-Jordan  
P.O.Box 173 Madaba 17110 Jordan  
tel: +962 5 3240786  
email: ihabhs@hotmail.co.uk