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**Strategic Thinking in Jordanian Publicly Quoted Companies**

**By:**

**Mohammad Nassar Dieb Al.marshad**

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

**University of Huddersfield**

**August 2013**

## ACKNOWLEDGMENTS

I would like to take this opportunity to express my sincere thanks and appreciation to the individuals who helped, supported, and encouraged me to complete this work. I begin first with my supervisor, the Director of Graduate Education and Head of Strategy & Marketing, University of Huddersfield Business School Professor John Anchor, who oversaw this thesis and helped me to complete this work. I thank him for his patience, efforts, encouragement, and follow up to bring this thesis into being properly and successfully during the duration of his supervision.

I would like also to express my thanks and appreciation to the Dean of the Business School, Professor Chris Cowton, and the academic staff and administrative employees in the University of Huddersfield Business School. I would also to thank all the individuals of the University of Huddersfield who work in the library for their co-operation.

I want to take this opportunity to express my special thanks to my father and my mother for their support, love and continuous encouragement; for offering me this opportunity to achieve my ambition; for their prayers for me to succeed in life; and, in addition, for the care that they gave to my family during the period of my study in UK.

I would also like to extend my special thanks to my dearest wife and children Kasem, Abd Rahman, Ahmad, Sokinnah, Rodinna, and Al Massah: a huge thank you for your love, patience, kindness, encouragement and support - I can't imagine my life without you.

I also want to extend my thanks to my brothers and sisters for their motivation, love and constant emotional support along the way.

I want to express my thanks and appreciation to all my colleagues in the University of Huddersfield Business School for their cooperation.

Last, but not least, I express my thanks to the Jordanian companies who participated in this research as well as to all individual respondents to the questionnaires and interviews. I trust they will regard their efforts as worthwhile.

## ABSTRACT

Strategic thinking (ST) is a process by which managers and employees try to find alternative ways to solve problems in order to deal with rapid changes and forces in a business environment. Strategic thinking was established and has been used extensively in developed countries. However, strategic thinking in developing countries has received little attention.

The research described in this thesis is an attempt to assess the extent of knowledge of and familiarity with the concept and purpose of strategic thinking, as well as to assess the extent of practice of strategic thinking factors in Jordanian publicly quoted companies. Also, this research explores the barriers which prevent the practice of strategic thinking in these companies.

Data was collected by using both quantitative and qualitative methods (i.e. questionnaires and interviews) which were employed at three different levels of company structures. The questionnaires aimed to investigate knowledge of and familiarity with the concept and purpose of strategic thinking, the extent of strategic thinking practices, and the barriers which prevent the practice of strategic thinking in Jordanian publicly quoted companies. 336 questionnaires were collected from 112 Jordanian publicly quoted companies, followed by eight semi-structured interviews with eight of the companies to support the study objectives and to achieve a good understanding of strategic thinking practices in Jordanian companies.

The main findings of this research are that the surveyed companies in Jordan have good knowledge of and are familiar with the concept of strategic thinking; that the age of a company has a moderate relationship with knowledge of the concept and purpose of strategic thinking, while the size of a company has no relationship with knowledge of the concept and purpose of strategic thinking; and that few differences exist between the four business sectors concerning the contribution to knowledge of and familiarity with the concept and purpose of strategic thinking. The majority of surveyed companies in Jordan use strategic thinking skills extensively in their companies. The findings also show that Jordanian publicly quoted companies face different barriers which prevent the practice of strategic thinking in their companies.

The study makes an original contribution to academic and practical knowledge in the field of strategic management. This study is considered an important empirical study of strategic thinking practices in publicly quoted companies in Jordan. Some recommendations for further research have been derived from this study.

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**CHAPTER ONE**  
**INTRODUCTION**

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# Chapter One

## Introduction

### 1.1 Introduction

The purpose of this chapter is to introduce the body of this research. The chapter is divided into five main sections. Section 1.2 presents an overview of the research and the need for the study. Section 1.3 presents the research aim and objectives. Section 1.4 presents the research questions. Section 1.5 gives the research methodology, and the structure of chapter development is presented in Section 1.6.

### 1.2 Overview and the need for the study

Strategic thinking has become popular and has been used since the beginning of the 1980s due to the changes existing in strategic planning and strategic management, particularly in large organizations, regarding the use of formalized and non-formalized strategic planning approaches (Bonn, 2001). At the end of the 1980s and the 1990s many authors differentiated between strategic planning and strategic thinking (e.g. Heracleous, 1998; Liedtka 1998b; Mintzberg, 1994a; Mintzberg, 1994b; Liedtka, 1998b) (see Chapter Three). Previous research provides different definitions of strategic thinking (Moon, 2012). However, strategic thinking could be defined as follows:

*“Strategic thinking is a process in which a person is perceiving, reflecting, feeling, realizing and acknowledging signs that impact the future of the firm, giving them meaning and acting upon them by shaping the impressions, perspective and behaviour accordingly” (Jelenc and Swiercz, 2011, p. 7).*

In every organization managers and employees must deal with changes and forces to survive and compete in their business environments through applying new philosophies to develop and improve their performance and the ability to use creativity for imagining multiple alternatives and for exploring whether there might be alternative ways of doing things is important for the development of unique strategies and actions programs. De



Bono (1996, p. 17) has asserted that, “without creativity we are unable to make full use of the information and experience that is already available to us and is locked up in old structures, old concepts, and old perceptions. Also, Porter (1991, p. 106) added that ‘the most successful firms are notable in employing imagination to define a new position, or find new value in whatever starting position they have’. Moreover, competing for the future is considered a big challenge for organizations and depends on managers’ ability to think strategically and to use and apply different skills to determine an organization’s efficiency and success. These skills allow managers within the organization to compare, evaluate, analyse, and synthesize information (Karğın and Aktaş, 2012). Furthermore, different researches have been conducted in developed countries because of a belief in its importance for companies. These studies dealt with different aspects such as the attitude of companies’ management toward risk, marketing competency, CEO’s emphasize on strategic thinking, estimating the level of strategic thinking, the nature of company culture, and the structures adopted that foster the practice of strategic thinking (Moon, 2012).

The majority of strategic thinking research has been undertaken in developed countries (e.g. Moon, 2012; Pang and Pisapia, 2012; Karğın and Aktaş, 2012; Halis et al., 2010; Pisapia et al., 2009; Pisapia et al., 2008; Pisapia et al., 2005; Stonehouse and Pemberton, 2002; Bonn, 2001) which shows the degree to which strategic thinking has been studied in developed countries, whereas in less developed countries, particularly in Jordan, there is no clear picture about previous studies that mirror the level of existing strategic thinking and the level of practice.

This research aims to contribute and draw the picture in less developed countries through studying knowledge of and familiarity with the concept and purpose of strategic thinking, and the extent of, and barriers to, the practice of strategic thinking in Jordanian publicly quoted companies. Therefore the importance of the study comes from the scarcity of literature concerning the topic of strategic thinking in the Arab world in general and in Jordan in particular and relates to the fact that less attention has been paid to examining this area in Jordanian publicly quoted companies (i.e. industrial, banking, insurance, and services sector), as well as the fact that strategic thinking within Jordanian companies has

never before been researched. Moreover, this will help to provide a better understanding of the capabilities of managers in Jordanian publicly quoted companies and their importance for appropriate and effective plans to be made for the future. This is one of the earliest studies addressing this topic and will fill part of the gap in the field of strategic thinking, especially in Jordanian libraries, and may also be beneficial for Jordanian business companies in the light of ongoing circumstances.

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

The aim of this research is to study strategic thinking in Jordanian publicly quoted companies in different sectors (industrial, banking, insurance, service). This involves:

Firstly, studying the extent of knowledge of and familiarity with the concept and purpose of strategic thinking in Jordanian companies registered on the Amman Stock Exchange, focusing on the effects of organizational characteristics such as age, size of company, and nature of business on such knowledge;

Secondly, studying the extent of practice of strategic thinking in these companies, focusing on their organizational characteristics such as age, size of company and nature of business on such practice;

Thirdly, studying the barriers associated with the practice of strategic thinking and focusing on organizational characteristics such as age, size and nature of business.

In more detail, the objectives of research are to:

1. Examine familiarity with the concept and purpose of strategic thinking in Jordanian publicly quoted companies.
2. Examine the extent of practising strategic thinking in Jordanian publicly quoted companies by investigating the following subjects:
  - The use of reflective thinking skills

- The use of reframing thinking skills
  - The use of systems thinking skills
  - The application of organic structures
  - The use of environmental analysis
  - The use of intelligent opportunism
3. Investigate the organizational characteristics (company age, company size and nature of business) which influence the extent of practice of strategic thinking in Jordanian publicly quoted companies.
  4. Examine the barriers which are likely preventing the practice of the strategic thinking process in Jordanian publicly quoted companies.

#### **1.4 Research methodology**

The methodology applied in this research (presented in Chapter Five) can be divided into three main stages:

The first stage includes the determination of the research philosophy, approach, strategy, design, time horizon, and data collection methods. Research philosophy is concerned with the way in which a researcher thinks about the development of knowledge. In this case a positivistic approach that was adopted determines how social research is undertaken quantifiably by using statistical analysis. In this context, the research adopted a deductive approach and a survey research strategy was chosen. A self-administered questionnaire was used as the main data collection method, followed by eight semi-structured interviews as part of a cross-sectional study.

The second stage was concerned with the empirical research which was conducted in Jordan from 1 August to 30 December 2011 by using hand delivered self-administered questionnaires. The study population consisted of 261 companies from different sectors registered on the Amman Stock Exchange; industrial, banking, insurance and services. A self-administered questionnaire was used to collect quantitative data. Moreover, eight

semi-structured interviews were conducted with eight participants from the same population. The questionnaire was piloted in three phases. In phase one, a number of drafts were sent to colleagues undertaking their PhD research in different businesses at the University of Huddersfield Business School for the purpose of commenting on the design, content, sequence, and wording. In the second phase the questionnaire instrument was distributed to academic staff specializing in the field of management in the UK (University of Huddersfield Business School) and Jordan (Al-Balqa Applied University). After that, in the third phase, the questionnaire instrument was distributed to four publicly quoted Jordanian companies to ensure the ability of the questionnaire instrument to collect the required data to achieve the research objectives.

The third stage was the process of analysing the data. In this stage, statistical software (SPSS v. 20) in social sciences was used in analysis of data obtained via the questionnaire instrument. This software allows the researcher to produce descriptive and inferential statistics (see Chapter Five).

## **1.5 Structure of chapter development**

This research is presented in seven chapters, as shown in figure (1.1).

**Chapter One:** Introduction. The aim of this chapter is to provide an introduction to the research, including an overview of the research, its aims and objectives, methodology, and the structure of the chapter development.

**Chapter Two:** Strategy and Strategic thinking literature review. This chapter is concerned with a review of the literature on the concept and views of strategy, strategic planning, and strategic management and aims to introduce the concept of strategic thinking, its importance and purpose from different points of view. Moreover, this chapter presents the relationship between strategic thinking and strategic planning, strategic thinking skills and the characteristics of strategic thinking leaders.

**Chapter Three:** Research methodology. The purpose of this chapter is to discuss the research methodology which was used to assess the extent to which Jordanian publicly quoted companies are familiar with the concept and purpose of strategic thinking and the extent of the practice of strategic thinking as well as the extent of barriers which impede its practice. In general, two methods are used to collect the data; namely, a survey questionnaire and semi-structured interviews. The questionnaire aims to investigate the extent of the practice of strategic thinking as well as the extent of barriers which impede its practice in the Jordanian publicly quoted companies, while the interview method is mainly used to explain themes that have emerged from the use of a questionnaire. This chapter discusses the research philosophy, approach, strategy design, time horizon, data collection method and research population, followed by a discussion of the validity and reliability of the data collection method. The chapter ends with discussion of the selected statistical tools used for data analysis.

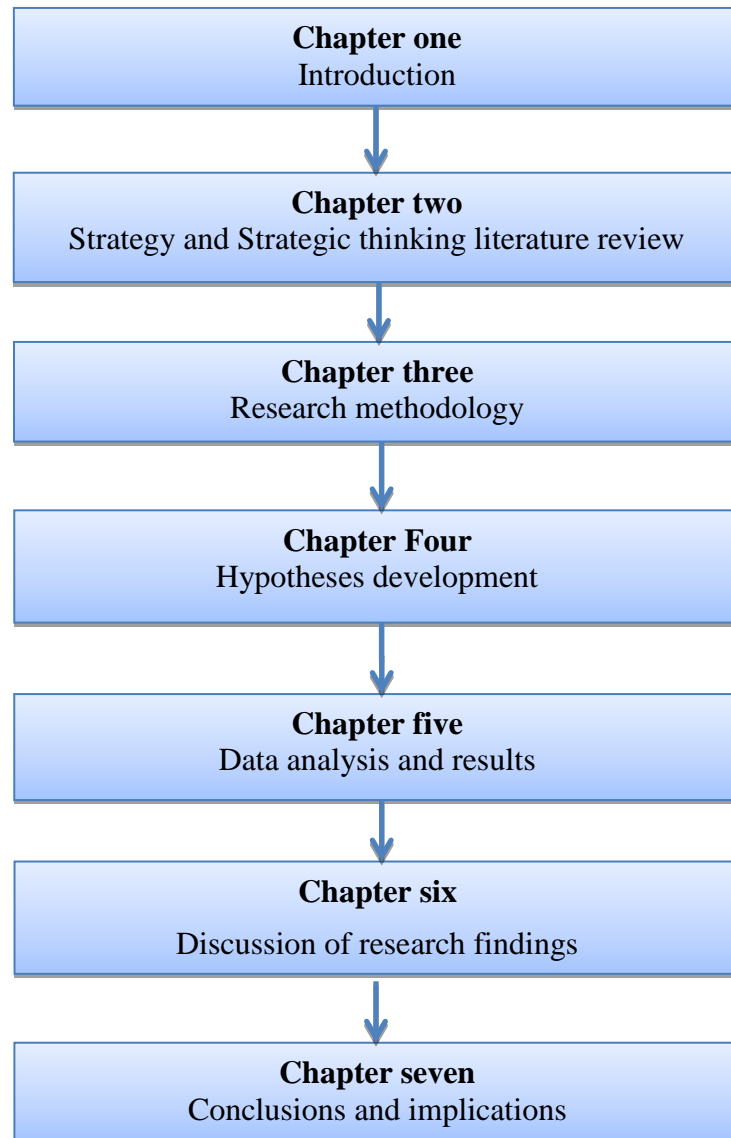
**Chapter Four:** Hypotheses development. The purpose of this chapter is to introduce the development of the conceptual framework and discuss the key issues related to the research and to explain how these issues will be examined empirically in relation to the research objectives. This chapter reviews the critical factors of strategic thinking practice most often identified by the research, supported by the writings of strategy practitioners and authors. The factors that are included this chapter are: the concept and purpose of strategic thinking; reframing thinking skills; reflective thinking skills; systems thinking skills; environmental analysis; organic structure; intelligent opportunism. In addition, the barriers which influence the practice of strategic thinking in Jordanian publicly quoted companies.

**Chapter Five:** Data analysis and results. The aim of this chapter is to present the findings of the data analysis of the data collected in Jordanian companies. This chapter includes a description of personal and organizational characteristics and checks for non-response bias, followed by the analysis of the data concerned with the extent of familiarity of the concept and purpose of strategic thinking, then the data related to the extent of the practice of the strategic thinking and its relationship to organizational characteristics, as well as barriers to the practice of strategic thinking.

**Chapter Six:** Discussion of research findings. The purpose of this chapter is to discuss the findings which have emerged from the data analysis presented in the previous chapter in relation to the research objectives and in context of the comparative studies and the theoretical literature that was presented in Chapter Two and Chapter Four.

**Chapter Seven:** Conclusions and implications. The aim of this chapter is to give a summary of the main findings of the research and discussion of the research findings in terms of their implication for the practice of strategic thinking. The chapter presents the contributions to knowledge; a discussion of the research limitations; recommendations for further research; and a number of recommendations for Jordanian companies arising from the research findings are presented.

**Figure1. 1:** Structure of chapter development



**CHAPTER TWO**  
**STRATEGY AND STRATEGIC THINKING LITERATURE**  
**REVIEW**



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## **Chapter Two**

### **Strategy and Strategic Thinking Literature Review**

#### **2.1 Introduction**

This chapter aims to introduce the background and review literature on the concept of strategy and to discuss views on strategy, the schools of thought on strategy making and to review the literature on strategic thinking. In more detail, this chapter is organized as follows: the strategy definitions discussed in section 2.2 and Schools of thought on strategy making are presented in section 2.3 and strategy development in section 2.4. The strategic thinking concept is discussed in section 2.5 and the elements of strategic thinking are explained in section 2.6. In section 2.7 the importance and advantages of strategic thinking are presented. The methodology vision for strategic thinking patterns and the relationship between strategic thinking and strategic planning are discussed in section 2.8 and in section 2.9 respectively. The strategic thinking skills are discussed in section 2.10. Finally, the characteristics of strategic thinking leaders are discussed in section 2.11.

#### **2.2 Strategy definitions**

Strategy is a concept with different meanings and perceptions with no one universally accepted (French, 2009; Khalifa, 2008). Strategy schools use and define strategy in different ways (Strategic Direction, 2009; French, 2009). In addition, the lack of a precise meaning of the strategy concept creates difficulty in choosing the most suitable form of strategy to be undertaken in an organization. The meaning of the term ‘strategy’ has a long history within the military and its origin is the Greek, *strategia*, which means the art of war (Chaharbaghi, 2007). Strategy is an organization’s model of resource allocation and decisions. The concept of strategy is the basis of competitive prosperity and advantage as it supports the long term survival of the organization by anticipating events and developing the ability to compete and grow. Strategy is also concerned with

corporate success and the development of creative action plans (French, 2009; Smith, 2007; Grant, 2005; Stewart, 2004).

The literature introduces a number of definitions for strategy (e.g. Johnson et al., 2005; McGee et al., 2005; Grant, 2005; Farjoun, 2002; Tregoe and Tobia, 2001; Porter, 1996; Mintzberg, 1987a). Johnson et al. (2005 p. 9) defined strategy as “the direction and scope of an organization over long term, which achieves advantage in a changing environment through its configuration of resources and competences with the aim of the fulfilling stakeholder expectation”. McGee et al. (2005), described strategy as the subject of study that focuses on the situational problems of senior management. Grant (2005) described strategy as the field that is concerned with the planning of how an organization or an individual will accomplish their goals. The author adds that strategy is about ensuring the long-term sustainability of the organization.

Farjoun (2002) defined strategy as the planned coordination of the organization’s main goals and actions with respect to its internal and external business environment. Porter (1996 p. 68) defined strategy as “the creation of a unique and valuable position, involving a different set of activities”. Also, he added that strategy is about action, which means choosing to develop activities and operations that distinguish the organization from its competitors. Tregoe and Tobia (1991) defined strategy as a vision, and argued that strategy may be seen as a corporate vision (i.e. a framework that guides the organization to allocate its resources, including products, markets, and key capabilities). These resources determine the nature and direction of an organization.

Another definition of strategy was introduced by Mintzberg (Mintzberg et al., 2009; Mintzberg et al., 2003; Mintzberg and Quinn, 1996; Mintzberg 1987a) who stated that strategy carries several different concepts depending on the theories and approaches that have been tackled, and the plurality of opinions. He introduced five dimensions of strategy: strategy as a plan which relates to the way leaders work to establish the direction of the organization in order to enhance performance. As a ploy, strategy focuses on the dynamics and competitive side of the business environment which takes an organization into world-wide competition. Strategy as pattern focuses on the action and the way an

organization acts and behaves according to the overall pattern. This should be based on convergent and consistent collection of behaviours and attitudes which, in turn, help to clarify the vision and the direction of the organizations. Strategy as position is concerned with positioning the organization in its competitive environment, which requires an understanding of rivals, their techniques and attitudes. Strategy as perspective is drawn in the mind of its maker as a philosophy and a way to see the world. Chandler (1962) presents the concept of strategy when he addresses the relationship between strategy and organizational structure of an organization, explaining that strategy is to identify the fundamental and long-term goals and objectives of an organization and to devise ways to dispose of and allocate the necessary resources to achieve these goals.

Based on past definitions of strategy, strategy can be considered as a framework that guides behaviours and ways to achieve the long-term goals and objectives of an organization which is addressed to the future decisions taken by management to direct their resources towards the development of a company's competitive position with respect to the internal and external environment in order to perform its mission.

### **2.3 Schools of thought on strategy**

There are several researchers who offer schools of thought that represent different approaches in the processes of strategy making as well as expressing different parts of the same process (Mintzberg and Lampel, 1999).

Mintzberg et al. (2009), Mintzberg et al. (2003), Mintzberg and Lampel (1999) and Mintzberg (1990) recognized ten schools of thought in strategy: Design School, Planning School, Positioning School, Entrepreneurial School, Cognitive School, Learning School, Power school, Cultural School, Environmental School and Configuration School. These schools have emerged in various stages in the development of the strategic management field. Some of these schools are in relation with the five Ps of strategy. For example, strategy as a plan is connected to the planning school, as a ploy, strategy is connected to the power school (Mintzberg, 1987a).

On the other hand, McKiernan (1997) identified four approaches (schools of thought) as a modern contribution to strategy; planning, competitive positioning, core competence-based strategy, emergent or learning, while Campbell et al. (2002) include a fifth approach, learning and knowledge-based.

Mintzberg (1990) explained that the design, planning and positioning schools are prescriptive, and they deal with strategy as a process of “conceptual design” of analytical positioning and formal planning which is related to the way that strategy must be formulated, while the six other schools are considered descriptive, deal with definite issues of the process of strategy and treat the strategy process in a descriptive direction. The configuration school is considered descriptive and is classified as configurational that combines the other schools.

The following schools considered the most important schools associated with the process of both strategy and strategic thinking.

- **Cognitive School:** This school treats the process of strategy formation as a mental process which is placed in the strategist’s mind, and strategies can be developed as a visible process in forms of concepts, diagrams, programmes, and frames to form shapes dealing with how people interact with environmental inputs (Mintzberg et al., 2009). Also this school adapted another idea, using cognition to develop creative interpretation rather than mapping reality in an objective way (Mintzberg et al., 2003).
- **Learning School:** This school treats the process of strategy formation as an emergent process, and it differentiate between the formulation and formation of strategy by knowing the nature of strategies formation in organizations instead of knowing the way of formulation (Mintzberg et al., 2009). The school develops strategies through a learning process throughout an organization; this exists because of the unpredictable environment, which is why the nature of the strategy process became an emergent process (Mintzberg et al., 2003). Moreover, in this

school there were many concepts introduced: deliberate an emergent strategy, Core competency, strategic content, stretch and leverage, logical instrumentalism that introduced by Quinn (1978) which give senior management the chance to connect together contributions of concepts about systematic analysis and political theories as well as the environmental behaviours to add value to the process of strategy formulation.

- **Cultural School:** This school treats the process of strategy formation as a collective process from the culture of the organization, by studying beliefs that shape the habits and traditions in addition to symbols, products, even buildings, which lead organizations to form strategies by continuously looking to cultural changes in the environment. Because of the competing environment many literatures held focusing in the strategic changes in cultures especially in the USA (Mintzberg et al., 2009; Mintzberg et al., 2003; Mintzberg and Lampel, 1999).
- **Environmental School:** This school views the external environment as shaping an organization's strategies, and treats the process of strategy formation as a reactive response to the forces of the external environment (Mintzberg et al., 2009; Mintzberg and Lampel, 1999). To put it another way, strategy is considered as a response to interventions by the external environment.

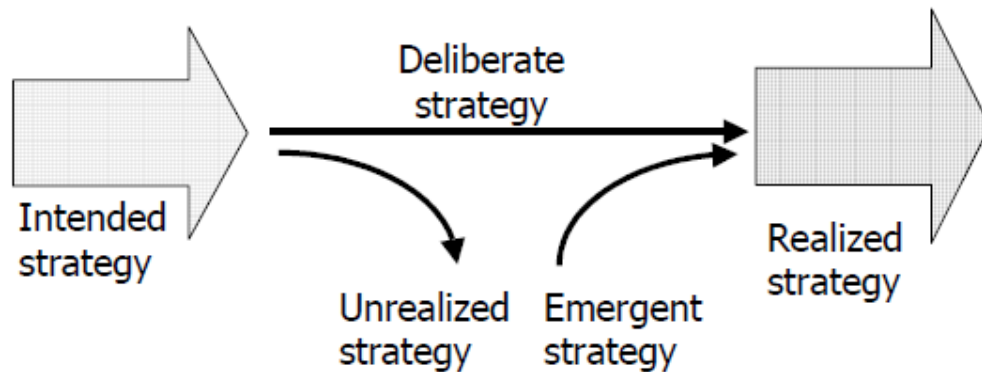
## 2.4 Strategy development

Khalifa (2008 p. 898) stated the importance of strategy which focuses on the value of customer "value creation" as well as the value of the stakeholder, "the value of capture and distribution", with continuity or excellence as necessary drivers for long term success, while Mintzberg (1987b) attempted to understand why organizations need strategies. He pointed out that there are four reasons why: first, strategy is required to determine the direction of the organization, know the subtle of competitors, and knowledge of environmental threats; second, strategy is required to focus efforts and enhance coordination and activity; third, strategy is required to define and clarify the

organization's mission for its employees as well as its customers; finally, strategy is required to reduce the uncertainty of future events.

On the other hand, Mintzberg (1994a) Mintzberg and Waters (1985), Mintzberg and McHugh, (1985) and Mintzberg (1978) classified two main types of strategy to explain that strategies can be formed in different ways, namely, intended and realized strategy in the process of strategy-making based on the concept of strategy as 'a pattern in a stream of decisions' (Mintzberg 1978). Those two types are in theory, but they can be combined in three ways as shown in (figure 2.1).

Figure 2. 1: Types of strategies (Intended and realized strategy)



Source: Adapted from Mintzberg and Waters (1985).

Intended strategy is a phrase related to desirable strategic direction deliberately formulated or planned by strategic managers, while realized strategy relates to strategy as followed by the firm in practice (Johnson and Scholes, 2002). Additionally, Mintzberg (1978) differentiates between these types of strategies: intended strategies that will become realized may be called deliberate strategies. Intended strategies which do not get realized may be called unrealized strategies. There are also realized strategies that were never intended, that may be called emergent strategies. Furthermore, emergent strategy relates to strategy that is not planned in advance and which appears from a consistent pattern of behaviour (Campbell et al., 2002).

The term 'strategy development' includes term such as 'strategic management' and strategic planning' and although these terms are directly associated to strategy development, they relate to different aspects of strategy development and cannot be used interchangeably. The following two subsections define these terms, but do not provide an extensive analysis as the focus is on cognitive process of strategic thinking.

#### **2.4.1 Strategic management**

Strategic management has been studied for a number of decades and it is considered a relatively young academic discipline (Nerur et al. 2008). This approach developed around 1980s (Hussy, 1998) where the fast changing world demands a practical approach to strategy and researchers became interesting in how managers actually develop strategy (Whittington, 1996). Strategic management developed from a simple approach of providing answer to managerial questions to a strict search for intellectual foundations with explanatory and predictive value (Furrer et al., 2008). The process of strategic management involves understanding the strategic position of an organization in the environment, the expectations of the stakeholders and the strategic capabilities, making strategic choices for the future and implementing strategies (Johnson et al. 2008).

Many different concepts and techniques were developed to build the competitive advantage of organizations by exploiting business opportunities. According to Thompson (2001) competitive advantages relates to the ability of an organization to add more value for its customers than its competitors and, thus, attain a position of relative advantage. A popular way of describing strategic management is through the role of a firm's resources and capabilities as a principal basis for its strategy, which become known as the resource-based view where resources are viewed as important antecedents to production of goods or services and resources are directly associated to organization performance (Grant 2005; Priem and Butler 2001). Resource-based view described as a "traditional strategy" where advantage comes from exploiting resources or stable market positions (Eisenhardt and Sull, 2001) where resources must work together to create organizational capability, in order to establish competitive advantage (Grant, 2005). Moreover, strategic management



is associated with the view of Learning and knowledge-based approach, which developed and introduced in recent years (Nonaka, 2007; Maqsood et al., 2007; Stonehouse, et al., 2001; Nonaka et al., 2000; Pemberton and Stonehouse, 2000; Stonehouse and Pemberton, 1999; Nonaka, 1991), proposes that competitive advantage depends on the management of knowledge through a process of organizational learning. It is a holistic approach that enfolds all facets of the organization (resource, capabilities, core competencies and activities) and their interaction with the organization environment (customers, suppliers, competitors, government, legislation, technology, etc.). Furthermore, the concept of core competence was introduced in the beginning of the 1990s by Prahalad and Hamel for the first time as one of the best-known strategic management concepts (Ljungquist, 2007). It was evolved from the view of large organizations (Hussain et al., 2006) which is related to the environmental conditions (Mkiernan 1997). Prahalad and Hamel (1990 p. 82) defined core competence as “the collective learning in the organization, especially how to coordinate diverse production skills and integrate multiple streams of technologies.” It contains three main characteristics to identify core competence in an organization. The first core competence should produce potential to wider markets; second, the end product should deliver a fundamental contribution to customer benefits; and finally, it should be difficult for competitors to imitate. Moreover, Weiwei and Jianping (2008), Ljungquist (2007), Hussain et al. (2006), Srivastava (2005) and Campbell et al. (2002) argued that core competences are considered as important contributors to competitive advantage or organizational success that must be highly developed and effectively managed to meet the three criteria or characteristics of core competence. Additionally, Campbell et al. (2002) argued that the view of this approach is ‘inside-out’ which suggests organizations looking for a competitive environment must first develop their resources, competences (considered by Weiwei and Jianping (2008) as the entrances to new markets) and capabilities, before introducing them to the environment. Organizations neglecting their environment will lead them to lose the awareness of their customers’ needs and competitors’ technological changes that are part of determining an organization’s competitive success. However, giving importance to the organization’s environment explains the interrelation with the concept of strategic control argued by Band and Scanlan (1995). This concept suggests that control must be a part of an organization’s

philosophy and must contribute totally to overall organization strategic directions and outcomes, to determine competitive advantage through its structure, staff, competitors, risks and its future.

Gluck et al., (1982) believes that the strategic management concept must relate to a particular type of system or process which connects decision making and strategic planning with daily business operational management. Moreover, the processes that are considered as a group of managerial decisions and activities which decide the long-range performance of a business consist of scanning the external and internal environment, formulation of strategies, execution of strategies and assessment and control, known as the concept of strategic management (Wheelen and Hunger, 2008; Mason, 1986). In the same context, Malan (2010) defined strategic management as the process of selecting strategies based on external and internal analyses, to achieve competitive advantage, planning how to approach those strategies and implementing the plans.

The term 'strategic management' contains different connections established in superior organizations which determined the qualities of organizations that managed strategically and strategic thinking obtained more importance. It is considered as one of the main entries to strategic management (e.g. more usage of strategic thinking ability, use of reasonable alternatives if the strategic planning process requires objective negotiation, reviewing the performance system by top management every year in every SBU strategy) (Gluck et al., 1982). It is appear to be a separate new phase in the development of management procedures. The most observable feature in strategic management phase that it includes a combination of strategic planning and decision-making processes in industry relating to determining the strategy making inside the process of formal strategic planning (Gluck et al., 1982).

On the other hand, Wilson (1994) stated that when applying strategic management in an organization we will get highly scored advantages like:

1. the organization's strategic vision will become clearer.

2. more careful attention to dynamic changes in the industry environment.
3. more attention to what is strategically significant especially in the planning and implementation process.

Finally, the strategic management process consists of different basic elements, but they are interrelated to establish and formulate strategy in the right way to execute the objectives of the organization. They include environmental scanning, strategy formulation, strategy implementation, evaluation and control.

The strategic planning aspect is explained in the next section.

#### **2.4.2 Strategic planning**

The Strategic planning process is considered a flexible and anticipatory process, because it begins to concentrate on the environment to conform to the marketplace instead of forecasting the future (Cavinato, 1999; Gluck et al., 1980). The new feature introduced in strategic planning is the need to analyse the environment to reach a strategic diagnosis of the organization (Pacios, 2004). It focuses on identifying long-term organizational objectives through developing and implementing the necessary plans in order to achieve these goals (Stonehouse and Pemberton, 2002).

In strategic planning process, planners start searching opportunities in the external environment through collecting information and data in multiple ways, and further identifying the organization's capacity in line with the needs of the markets in which they operate. Therefore, an organization's management begins building strategic business units (SBUs) which are aimed to start looking at the products that they offer by their organizations, competitors' offers, the preferences and views concerning external clients, in addition to the internal capacity of the organization (Cavinato, 1999; Gluck et al., 1980). Cavinato (1999) argues that the management of SBU can effectively control the business, as well as developing and analysing strategic options by concentrating on a

specific number of product lines. However, the structure of strategic business units does not easily allow the simplification of opportunities over all the organization to benefit in such areas as research and development and purchasing, in spite of the improved product it offers. Moreover, when the strategic alternatives that are developed by strategic business units shifted to high level management, the lower level management usually identify the strategic options which will be developed to be reviewed annually by high level management. This process that accomplishes at lower level contains two fundamental side effects for the organization, related to long-range positioning and the financial situation:

1. information may be lost because low level management neglect the information that is not related to their SBU despite its possible importance for the organization.
2. the time consumed in the strategic alternatives means that the new strategic options will not be implemented because they become out-dated.

Strategic planning contained defects and it began declining around 1980s for various reasons (e.g Pacios, 2004; Desai, 2000; Cavinato, 1999; Glaister and Falshaw, 1999; Carter, 1999; Wilson, 1998; Tayler, 1997), but it is considered to be an important tool for the management of an organization. It aims to ensure the availability of the appropriate resources to the organization in a timely manner and place in order to achieve its goals (Aldehayyat, 2010; Thompson, 2001). However, Ansoff (1991, p.457) indicates that strategic planning “permits additional savings of time through starting the strategic response in the anticipation of the need to act”, whereas (Delmar and Shane, 2003) in their study “Does Business Planning Facilitate the Development of New Ventures?” in which they examined 223 new ventures in Sweden, indicate that strategic planning helps in balancing the demand and supply of resources effectively and sets concrete goals that allow people to achieve their decisions.

Wilson (1998) surveyed fifty organizations to identify their current activities. He pointed out that strategic planning has shifted dramatically relating to various changes:

1. dynamic changing in the markets relating to competitiveness and technological surroundings in the organization's environment.
2. planning responsibilities have moved from staff managers to line managers.
3. decentralization problem is the responsibility of strategic planning to business units.

Different benefits are suggested in the literature relating to the concept of strategic planning (Parrington, 2007; Harrison, 1995; Greenley, 1986), and can be summarized as follows:

1. systematic and continuous process in gathering data, leading to the employment of knowledge management practices.
2. determining and investing of future marketing opportunities.
3. encouraging creativity and innovation in strategic paths.
4. enabling managers to understand business clearly.
5. motivating internal communication between employees.
6. decreasing uncertainty and dealing with change.
7. controlling outcomes to ensure positive results toward organizational objectives.

Finally, strategic planning process consist of different elements, these elements include environmental scanning (external and internal) defining a company's mission statement, specifying objectives, evaluating and selecting a suitable strategy for the implementation and setting policy guidelines. One of the most important elements of strategic planning process is environmental scanning because it's associated with the process of strategic thinking. For this reason the study will concentrates on this subject.

The reason for increasing importance in environmental scanning relates to the rapid change in the industry environment, because through environment scanning organizations can determine the degree of change in the external environment and establish competitive advantage to control the internal environment, which will increase the abilities of top

management in determining its objectives and strategic position (Alkalibi and Idrees, 2009). According to Saxby et al. (2002), environmental scanning allows organizations to be aware of environmental factors that may significantly affect or control an organization and its strategic direction. Additionally, environmental scanning became an accepted tool to guide the process of decision making of top level management. Moreover, Costa (1995) stated that environmental scanning can be considered as the first step in the process of strategy development as well as providing the information needed for decision making, while Hambrick (1981) defined environmental scanning as a managerial activity of learning about events and trends in an organization's environment, and considers it as the first link in chain of perceptions and actions that lead to adaptation to the environment.

The view of the concept of environmental scanning is to determine the external and internal elements as strategic factors which will identify the future of the organization through using SWOT analysis, and the concept of environmental scanning relates to the supervision or monitoring, evaluation, and distribution of information from external and internal environments to strategic managers within the organization (Alkalibi and Idrees, 2009; Wheelen and Hunger, 2008; Wheelen and Hunger, 2004; Wheelen and Hunger, 2002). On the other hand Skipton (1985) indicates that SWOT analysis works as a link between strategic analysis and strategic planning.

Costa (1995, p.5) stated that environmental scanning improves the abilities of an organization to deal with a rapidly changing environment in various ways:

1. It helps an organization to capitalize early on opportunities.
2. It provides an early signal of impending problems.
3. It sensitizes an organization to the changing needs and wishes of its customer.
4. It improves the images of the organization with its public by showing that it is sensitive to its environment and responsive to it.
5. It provides a base of objective qualitative information about the environment.

Wheelen and Hunger (2002) divide environmental scanning into two parts: external and internal environment.

The external environment includes different variables as opportunities and threats located outside the internal organization environment. The external environment is classified into two components: societal environment and task environment (industry). Societal environment relates to the external environment that indirectly affects an organization's activities in the short run but which can, and often does, affects its long-run decisions. The societal environment contains sociocultural, economical, technological and political-legal forces. The task environment relates to the external environment that directly affects the organization and which in turn is affected by it. It contains suppliers, shareholders, governments, customers, competitors, communities, creditors, employees/labour unions, trade associations and special interest groups.

Scanning the external environment is not completely sufficient for an organization to accomplish competitive advantages, and environmental scanning should look within the organization strategic factors. Internal organization environmental scanning is considered as identifying the strengths and weaknesses that are located inside the organization. Strengths and weaknesses determine if an organization will be able to gain an advantage while avoiding threats. An organization's internal environment consists of the organization's structure, culture and resources.

## **2.5 Strategic thinking concept**

There are several definitions of the term "strategic thinking", but there is no agreement on what strategic thinking is (Tavakoli and Lawton, 2005; Heracleous, 2003; O'Shannassy, 2003; Bonn, 2001; Lawrence, 1999; Heracleous, 1998) and there is further confusion in the strategic management field (O'Shannassy, 2001b; Lawrence, 1999) with a strong argument nowadays on what actually represents strategic thinking (Kustschera and Ryan, 2009; O'Shannassy, 2003; O'Shannassy, 1999). Many authors have used the concept of strategic thinking interchangeably with other concepts (e.g. strategic thinking, strategic

management, or strategic planning) (Younis, 2002; Bonn 2001; Liedtka 1998a; Wilson 1994), and this created significant confusion in the literature and a gap in practising strategic thinking related to a lack of understanding of the overall concept (Goldman and Casey, 2010; Casey and Goldman, 2010; Steiner et al., 1983). For example, Liedtka (1998a) indicates that the expression “strategic thinking” is used to indicate all thinking in relation to strategy, rather than to indicate a specific way of thinking, with precise characteristics, and Wilson (1994 p.14) observes that: “This continuing search for improvement has profoundly changed the character of strategic planning so that it is now more appropriate to refer to it as strategic management or strategic thinking”. The term strategic thinking was widely used at the end of the twentieth century (Allio, 2006; Younis, 2002; O’Shannassy, 2001b; Liedtka, 1998a) and the concept accompanied the phenomenon of competition to strengthen or gain competitive advantage for an organization; the existence of this relationship to competitive advantages turned attention to the term “strategic thinking” (Baloch and Inam, 2007; Abraham, 2005; Bonn, 2005; Mohammad, 2005; Raimond, 1996; Bonn and Christodoulou, 1996; Mintzberg, 1994b; Wilson, 1994).

According to Liedtka (1998a) strategic thinking is a term appropriate for use in accordance with the present requirements and takes advantage of the givens and to draw a picture of the future of the organization, by connecting the past, present, and future. She pointed out that strategic thinking is a development of strategic planning which includes all joints of strategic management. This means that strategic thinking should be included in strategy formulation and implementation, and also in determining the strategic performance of an entire organization. On the other hand, Mason (1986) stated that the strategic thinking process includes all stages of strategic management that precede the strategic planning process, while Kustschera and Ryan (2009), Liedtka (1998a) and Mintzberg (1994a) indicate that strategic thinking is a way of specific thinking characterized by specific prosperities. Its outcome is an integrated perspective of the organization (Mintzberg, 1994b), and accords with the view of theorists Hamel and Prahalad (1994) with another term used to denote the concept of strategic thinking, which is “crafting strategic architecture”. This is to provide a capability for building the



competence needed to control future markets by explaining the new view of strategy concerning how to get to the future first, by applying different themes in competing for the future. Moreover, Heracleous (1998), and Mintzberg (1994a, 1994b) argue that strategic thinking is a synthesizing process, resulting in good employment of intuition and creativity in the formulation of strategic directions for an organization at all levels of the company, while strategic planning is the analytical procedure aimed at the programming of pre-identified strategies they already have. It is pointed out that strategic thinking indicates the availability of skills and abilities necessary for an individual to undertake strategic behaviour and to practise the tasks of strategic management so that the individual has the ability to examine and analyse the various elements of the environment and provide accurate forecasts for the future through the use of imagination and innovation, as the strategy is based mainly on innovation (Alsalleem, 2005). Moreover, Bonn (2005) and O'Shannassy (2003, 2001b) stated that strategic thinking is connected with solving strategic issues and conceptualizing the future of the organization. In addition, solving strategic issues must take its place within all levels of the organization through combining generative and rational processes (Monnavarian et al., 2011; Goldman, 2008; Tavakoli and Lawton, 2005; O'Shannassy, 2003; Graets, 2002; O'Shannassy, 2001b; Mintzberg, 1994a; Mason, 1986). In other words, all individuals at management levels of the organization can share thoughts, analysis and action and think strategically - not just the senior managers (Goldman, 2008; O'Shannassy, 2003).

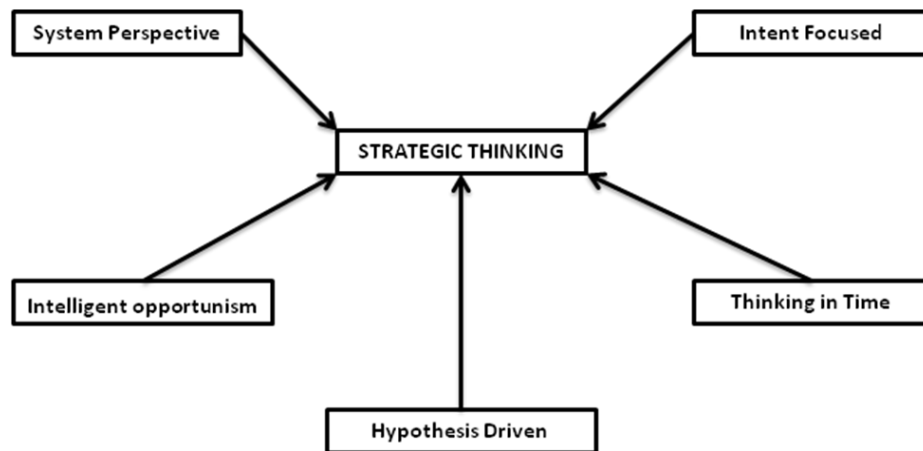
Moreover, it is possible to define the term strategic thinking in two ways: a "broad" or a "narrow" definition. The narrow definition concentrates on Eastern, creative, generative, divergent, synthetic thinking processes, while the broad definition tries to connect these thinking processes with Western, analytical, rational, convergent thinking processes (O'Shannassy, 2003; Heracleous, 1998; Mintzberg, 1994a; Mintzberg, 1994b). The former view is linked with Mintzberg (1994a, 1994b) whereas the latter view is linked with writers such as Bonn, (2005); O'Shannassy, (2001b); Liedtka, (1998a); Raimond, (1996); and Wilson, (1994). On the other hand, determining alternative viable strategies or business forms different from competitors that submit customer value, is the express meaning of strategic thinking (Abraham, 2005).

Raimond (1996 p.212) compared strategic thinking processes between Eastern and Western organizations. He divided the process of strategic thinking into two types: strategy as “intelligent machine”, which depends on collecting data and processing them to be used as information to determine the main critical factors in the external environment, and “strategy as creative imagination”, which depends on our imaginations “where we ideally want to be in, say, 10 or 20 years’ time”.

## 2.6 Elements of strategic thinking

Strategic thinking is associated with many elements that make it a special kind of thinking characterized by specific characteristics which become a model reflecting the strategic thinking process, and a system applied by the strategic leader (Liedtka, 1998a). Figure 3.2 includes a model which composes and illustrates the five elements of strategic thinking developed by Liedtka (1998a). Those elements are illustrated as follows:

**Figure 2. 1:** The elements of strategic thinking



Source: Liedtka (1998a)

## **1. A system perspective**

Strategic thinking is based on a systems perspective and considers an holistic view of the organization. A strategic thinker owns a mental picture of an holistic system to create value in an organization, as well as to understand interconnections within it (Liedtka, 1998a). Senge (1990), in his writing on learning organizations, has explained the power of mental models in controlling our behaviour. This mental model must include an understanding of internal and external organizational environments of how the world works around us and how we can take actions. Senge (1990, p. 8) states that:

“Mental models are deeply ingrained assumptions, or even pictures or images that influence how we understand the world and how we take action”.

Furthermore, Moore (1993) points out in the same context that we must expand the thinking process to include variables beyond the limits of an industry or organization, which in turn will inevitably open the door for innovation; the organization must be viewed not as a single member of the industry but as part of an holistic system which crosses a set of industries. Within this spectrum, strategic decisions contain variables of cooperation or competition to support customer needs and new products, and include the coming round of innovations considered as outputs of strategic thinking for management to work co-operatively and competitively.

Lawrence (1999) argued that strategic thinkers must appreciate the interrelationships between the staff in its internal parts that unified form the whole, as well as the reality that the whole is bigger than the sum of its parts, and this relates to the understanding of the external environment ecosystem in which an organization works.

According to Baloch and Inam (2007), organizations must develop a learning culture and manage change successfully to help them to apply lessons from the past mistakes and prevent repeating them in the future. In addition there are visible and invisible indicators in the culture of an organization which need to be addressed to allow leaders to think strategically and initiate change (Whitlock, 2003).

## **2. Intent-focused**

Strategic thinking is a process driven by strategic intent and provides focus, attention and energy that authorizes individuals and organizations to accomplish goals (Liedtka, 1998a); therefore, strategic intent is considered as a desired position by leadership and a desired future, a goal to be performed with winning (Stacey, 2003).

Strategic intent is to build a long-term vision for the market or the competitive position of the organization that wishes to build for the coming decade or more; so it determines a point far in the future and turns the direction of the organization and the attention of workers to that point. In addition it means a unique competitive point in the future, hence it gives sense to the discovery of new markets, leading to a sense of discovery. The strategic intent is a worthwhile goal in itself. Thus, direction, discovery, and destiny are the attributes of strategic intent by shaping and re-shaping the future of the organization (Hamel and Prahalad, 1994; Hamel and Prahalad, 1989). In other words, strategic intent is a sense of direction of shaping and re-shaping the future of the organization as a fundamental priority to achieve its goals (Liedtka, 1998a).

## **3. Intelligent opportunism**

The spirit of this idea represents the view of openness to new experience which authorizes a person to take benefits of alternative strategies and new ideas which may emerge as more related to a dynamically changing market environment (Lawrence 1999; Liedtka, 1998a). This view is compatible with Mintzberg (1999) who, relating to this approach, confirmed the difference between the deliberate strategy and the emergent strategy.

Moreover, in applying intelligent opportunism, organizations must consider the input of their strategies from people at a lower level or the people who are more innovative and more creative in identifying alternative strategies which may be more suitable for the organization's environment (Lawrence, 1999; Mintzberg, 1999).

#### **4. Thinking in time**

Liedtka (1998a) has explained that the element of thinking in time relates to connecting the past with the present to create the future of an organization. This fluctuation from past, present and future is considered a significant step to formulate strategies and implement them. According to her, to achieve this goal it is necessary for an organization to depend on its memory and its broad historical record related to its past processes and other organizations. Also this element is one of the most important processes that fill the gap between the realistic present and the direction of future intent.

Neustadt and May (1986, p. 251) believe that thinking in time consists of three components:

1. the future is linked to the past, the past having predictive value.
2. the perception of what will happen in the future out of the present which looks different from the past and which diverts the organization from familiar patterns.
3. continuity of comparison is “an almost constant oscillation from the present to the future to past and back”.

#### **5. Hypothesis-driven**

Strategic thinking is hypothesis-driven. This element mirrors the “scientific method” in which it deals with hypothesis creation and testing as major activities. This process starts by asking the creative question ‘what if?’ followed by a critical question to test the hypothesis “if..., then...?” and then brings related information to bear on analysis, including an analysis of a hypothetical group of financial flows connected with the idea (Liedtka, 1998a). This process assumes that strategists are ‘experimental’ thinkers and are able to test several alternative courses of action and evaluate them critically with the possibility of accepting or refusing them by using the scientific method to test hypotheses (Tavakoli and Lawton, 2005; Liedtka, 1998a).

## **2.7 The importance and advantages of strategic thinking**

Much literature explains the importance and purpose regarding the application of strategic thinking processes in organizations (see section 2.5 and section 4.3). As mentioned before, strategic thinking provides the capability for building competencies to control future markets (Hamel and Parhalad 1994). According to Liedtka (1998a) strategic thinking includes strategy formulation and implementation as well as determining the strategic performance of an entire organization. Moreover, applying strategic thinking strengthens or gains competitive advantage (Allio, 2006; O'Shannassy, 2001b; Liedtka, 1998a) and creates an integrated perspective for the organization (Mintzberg, 1994b). Furthermore, applying strategic thinking can lead to a focus on the company objectives, business units, functional units, different groups and subgroups or individuals and involves a manager's ability which leads to knowing their business and markets (e.g. how business makes money, consumer behaviour needed for the success of their business); managing subunit rivalry, which focuses on the abilities of company managers to drive the greatest benefit from subunits that have incompatible goals; discovering and overcoming threats by diagnosing threats concerning the intended actions taken by the company; the company's ability to stay on strategy, which involves identifying and capitalising on the company current strengths; enhancing company competitive advantages and concentrating on specific target markets; and, finally, strategic thinking involves being able to accommodate adversity and act as an entrepreneurial force (e.g. studying the relationships between the company and its environment and learning from past mistakes). Taking risks by being an entrepreneurial force leads to some failures (Sumpf, 1989). Abraham (2005) believes that there are many benefits that organizations can obtain from applying a strategic thinking process.

Internal Revenue Service (2001, quoted in Fairholm and Card, 2009, pp.18-19) mentioned that strategic thinking is a very important process that leads to the formulation of effective strategies which take into account the external effects on an organization from a global and national perspective. Studying the policy issues and strategic planning within a long-range perspective leads to a satisfying organizational vision and identifies

objectives, priorities and establishes strengths. Finally, it predicts possible opportunities or threats.

Abraham (2005) believes that there are many benefits that organizations can obtain from applying a strategic thinking process:

1. make the organization successful and different from its competitors.
2. strategists, organizational managers can gain knowledge of how to look at the world with entrepreneurial eyes.
3. can find fresh opportunities to create ideas all the time over the year.
4. keeping the organization future-oriented.
5. increasing integration collaboration by using strategic alternatives like outsourcing, joint ventures and licensing (e.g. using another company's trademark).

Liedtka (1998a) believes that organizations that succeed in providing the capabilities and elements of strategic thinking throughout their management levels will have a strong competitive advantage over their counterparts. Thus, the whole system perspective must authorize them to restructure their processes to have more efficiency and effectiveness. Within the whole system perspective organizations will obtain more benefits which are summarized as follows:

1. applying intent-focus will make whole organizations more determined and less confused than their competitors
2. the organization's ability to think in time will develop the quality of its decisions and expedite the implementation process.
3. the capacity to generate hypotheses and testing will lead to the inclusion of both critical and creative thinking into their processes.

Taken these elements together will create the capability for strategic thinking which also contributes to overall capacity in the development of competitiveness and improves

organizational outcomes. This could be accomplished by testing the value of strategic capability within three significant criteria: creating better value for customers; hard for competitors to imitate; and making the organization more relevant to meet change (Day, 1994).

On the other hand, strategic thinking can lead organizations to determine, respond, and to manage environmental changes through searching information and alternatives with the purpose of assuring the continuity of competitive advantages for the organization given its strengths, core skills, and experience. Moreover, applying the strategic thinking process guides the determination of innovation and methods which organize the emerging changes and accomplish other attractive results, like increasing growth or developing new knowledge or expertise in addition to expansion (Sanders, 1998).

Additionally, Kustschera and Ryan believe that strategic thinking comprises two characteristics; first, it is a method of thinking in various topics relating to business and non-business actions, and second, that strategic thinking offers a rational element to the process of decision making through the use of intuition (Kustschera and Ryan, 2009).

Also, Suutari (1993) argues that strategic thinking contains valuable benefits especially at the functional level of the organization because it expands responsibility for strategy formulation from the senior level to the functional level, and this mission of merging strategies of both levels of the organization will lead to the following benefits:

1. It offers flexibility, which means the ability of managers to react rapidly to market desires (e.g. customer requirements, or to cope with shorter product life cycles).
2. It leads to “empowerment,” which means the decision-making power is shared inside the organization; in other words, decision making is merged from general manager to the lowest level in the organization. Moreover, this is more helpful for flexibility and could lead to a stronger sensitivity to customer requirements.
3. The quality of decisions is improved as they become more logical.



Gilmore added that applying strategic thinking will benefit organizations in different ways. These benefits are summarized in table 2.1.

Table 2. 1: **Benefits of strategic thinking**

<ul style="list-style-type: none"><li>• Insight, or problem solving skills, that help employees intuitively make sense of chaos in their organization's environment.</li><li>• The ability to see emerging conditions that can provide long-term competitive advantage.</li><li>• The skill of visualizing, interpreting and scanning the environment for information about the organization's present and future.</li><li>• The ability to determine new market opportunities and create real solutions that advance organization business.</li><li>• The ability to understand the importance of relationship building and its interconnectedness with organization business goals.</li></ul>
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**Source:** Gilmore, (2007 p. 1).

## **2.8 The methodology vision for strategic thinking patterns**

Referring back to the concepts of strategic thinking we find that the patterns of strategic thinking can be divided into two: an analytical pattern and a synthesis pattern (O'Shannassy, 2003; Heracleous, 1998; Raimond, 1996; Mintzberg, 1994a; Mintzberg, 1994b).

### **1. Analytical pattern:**

In this approach of thinking, the analytical thinker is considered as nearer to the traditional vision of a planner. In this kind of thinking planners specialize in dealing with intended strategies and ensure that they are obviously well communicated, this process is known as "strategic programming" and includes a sets of stages that lead to explaining the decision in exact action models for the process of implementation. Here, the strategic objectives are defined in advance and the data about the decisions and their sources of clear and sufficient, also planners hold analytical studies to ensure contemplation of the

needed solid data and carefully create check strategies intended for the process of execution; this kind of thinking is called the “right-handed planner” (Mintzberg, 1994a; Mintzberg, 1994b). The processes of analytical approach start after strategies are decided, simply emerge, or are discovered (Heracleous, 1998) and as analytical thinkers they try to think what they will do (Mintzberg, 1994b). This view is linked with the analysis of Mintzberg (1994a, 1994b) and Mason (1986), that strategic planning will not lead to creating strategies because strategic planning as it is experienced as “strategic programming, the articulation and elaboration of strategies, or visions, that already exist”. In other world “planners should make their contribution around the strategy-making process rather than inside it” (Mintzberg, 1994b).

On the other hand, Hussey (2001) believes that there are many drawbacks to the analytical method, summarized in the following:

1. the analytical process may be controlled by human behaviour .
2. the problem of taking the wrong analysis.
3. inconvenient techniques and methods.
4. mistreatment of techniques or instruments.

Behn and Vaupel (1983) in their research “Analytical thinking for busy decision makers” indicate that it is likely that harried managers can think analytically about their decisions, decisions to create smart choice by applying decision analysis to think smartly about the choice taken. Also, managers can use this method when they are short of data and time.

## **2. Synthesis pattern:**

This type of thinking stands on assumptions opposite to the analytical thinking process. It is considered as less traditional than the analytical pattern, although it exists and is applied by many organizations (Mintzberg, 1994a, 1994b). It contains motivating innovation, intuition and the use of creative thinking by every part of the organization. In a synthesis pattern the planners search to deal with the process of strategy-making in a

creative way and have the ability to perform quick studies; they prefer to discover strategies in unusual places and aim to motivate employees in the organization to think strategically (Mintzberg, 1994a). This type of thinker to some extent tends to be more inclined towards the intuitive processes which are identified by the right hemisphere of the brain (Mintzberg, 1994a, 1994b) that directs the left hand side of the human body (Stamp, 1981).

Weber (1984) asserts that a synthesis process involves inferences concerning assumptions, reframing, and dialectical analysis. Also he believes that there are different ways (heuristic steps) that must be followed to achieve the synthesis process, summarized as follows:

1. drawing strategy by the participants and determining the problem that the strategy is aimed to solve.
2. trying to find circumstances that could be effective to implement the strategy.
3. identifying important circumstances for the execution of the strategy, and restructuring these circumstances through an evaluation process.
4. collecting information to support the circumstances and screening circumstances for dialectic assessment.
5. repeating all steps from step one to four for every competing strategy.
6. improving counter circumstances, supporting these circumstances with information and reframing where suitable.
7. confronting circumstances and counter circumstances with their data and then structuring circumstances.
8. deducing the best strategy.

Many researchers believe that an organization needs to use both patterns of thinking for its benefits at different stages within the process of strategic management (e.g. Kutschera and Ryan, 2009; O'Shannassy 2003; Heracleous, 1998; Raimond, 1996; Mintzberg, 1994a; Mintzberg, 1994b; Stamp, 1981).

For example, Kustschera and Ryan (2009) pointed out that both patterns are considered as a process of rational assessment and thought creation which allows for intuition and rational analysis to reinforce each other to produce better outcomes.

## **2.9 The relationship between strategic thinking and strategic planning**

There are many existing views about the relationship between strategic thinking and strategic planning (Lowder, 2009; Liedtka, 1998a; Liedtka, 1998b; Heracleous, 2003; Heracleous, 1998; Hall, 1994), but Bonn, (2001), Heracleous, (1998) and Mintzberg, (1994b) considered them to be different concepts. Graetz, (2002) and Heracleous, (1998, p. 482), see them “as distinct, but interrelated and complementary thought processes” although they are two different modes of thinking. Both strategic planning and strategic thinking are important and neither is sufficient without the other. Also, Graetz (2002) stated both are important in effective strategic management. Despite the fact that there is no agreement on what strategic thinking is and what strategic planning is (Heracleous, 2003; Heracleous, 1998; Liedtka, 1998a; Liedtka, 1998b), the role of strategic planning is “to realise and support strategies developed through the strategic thinking process and integrate these back into the business”. In contrast, the role of strategic thinking is “to seek innovation and imagine new and very different futures that may lead a company to redefine its core strategies and even its industry” (Graetz, 2002 p. 457).

According to Gratez (2002) and Mintzberg (1994b), the strategic planning process is considered to be a rational process which requires analysis skills in planning how to achieve the strategy of the organization, while strategic thinking also contains creativity and intuitive thinking. In practice planners should share their contribution about the process of strategy making not inside the strategy process (Mintzberg, 1994a, 1994b) and the outcome of the strategic thinking process is “an integrated perspective of the enterprise, a not too precisely articulated vision of direction” (Mintzberg, 1994b p.108). Heracleous (2003, 1998) explains that there are four fundamental differences between strategic planning and strategic thinking.

First, strategic thinking must precede strategic planning. The view of this difference emphasizes that strategic thinking is a “divergent and synthetic” process, while strategic planning is an “analytical and convergent” process (Heracleous, 1998 p. 482). Also, strategic planning cannot create strategies; it is just limited to the operationalization of existing and new strategies. Second, “strategic thinking is (and should be) analytical” (Heracleous, 1998 p. 482). Third, the purpose of strategic planning is to improve and facilitate strategic thinking as suggested by Heracleous (1998, p. 482) that the actual “purpose of strategic planning is to facilitate strategic thinking, where structured planning tools are used to aid creative thinking”. Also this view is associated with De Gues (1988) who proposed that the real benefit of the strategic planning process is to change or enrich the mental models of managers instead of the creation of a plan. Thus the strategic tool linked with the view of scenario planning, which is explained as a procedure for obtaining suitable answers to a reasonably possible future, designed to question managers' leading hypotheses and sensitize managers' thinking to possible competitive areas which are totally different from existing ones. Fourth, strategic planning has evolved into strategic thinking over time and within this view the process of strategic planning responsibility has moved from top management to line managers.

Liedtka (1998b) differentiates between strategic thinking and strategic planning within different dimensions: vision of the future, strategic formulation and implementation, control, managerial role in strategy making, as well as process and outcome. Table 2.2 explains these differences between the two concepts.

**Table 2. 2:** The difference between strategic thinking and strategic planning

	<b>Strategic Thinking</b>	<b>Strategic Planning</b>
<b>Vision of the Future</b>	Only the shape of the future can be predicted.	A future that is predictable and specifiable in detail.
<b>Strategic Formulation and Implementation</b>	Formulation and implementation are interactive rather than sequential and discrete.	The roles of formulation and implementation can be neatly divided.
<b>Managerial Role in Strategy Making</b>	Lower-level managers have a voice in strategy-making, as greater latitude to respond opportunistically to developing conditions.	Senior executives obtain the needed information from lower-level managers, and then use it to create a plan which is, in turn, disseminated to managers for implementation.
<b>Control</b>	Relies on self-reference – a sense of strategic intent and purpose embedded in the minds of managers throughout the organization that guides their choices on a daily basis in a process that is often difficult to measure and monitor above.	Asserts control through measurement systems, assuming that the organizations can measure and monitor important variables both accurately and quickly.
<b>Managerial Role in Implementation</b>	All managers understand the larger system, the connection between their roles and the functioning of that system, as well as the various roles that comprise the system.	Lower-level managers need only know his or her own role well and can be expected to defend only his or her turf.
<b>Strategy Making</b>	Sees strategy and change as inescapably linked and assumes that finding new strategic options and implementing them successfully is harder and more important than evaluating them.	The challenge of setting strategic direction is primarily analytic.
<b>Process and Outcome</b>	Sees the planning process itself as a critical value-adding element.	Focus is on the creation of the plan as ultimate objective.

Source: Liedtka, (1998b).

## 2.10 Strategic thinking skills

Managers today face many different challenges which affect their organizations' abilities to move forward. Given the complexity and changes in the organizational environment, Pisapia et al. (2005, p. 41) stated that managers "struggle with meeting the demand of a globalized society and local constraints" and added that managers today in all

organizations are challenged and surrounded by stability and change; non-linear and linear thinking; globalism and localism. According to Dagher and Al Zaydie (2005), increasing change and complexity in organizations' environments are influenced by the way of thought and research in management field and organizations' behaviour as well as influenced by the way of organizational interactions with their environments. It is the responsibility of organizational staff to start thinking strategically at all levels of management, to share ideas, analysis and achievement (O'Shannassy, 2001a; Croach and Basch, 1997), and to find tools or approaches to measure managers' thinking ability and behaviour of organizations' management leaders by using cognitive processes (Pisapia et al. 2005).

Dagher and Al Zaydi (2005) believe that the importance of the cognitive approach became obvious in studying top leaders' behaviour in companies that combine the importance of the roles and thinking abilities of leaders in managing their companies. The notion that cognition "is the way thinking is done" occurs (Pisapia et al 2008; Pisapia et al. 2005). Moreover, the cognitive theory depends on the leaders' past experiences, their own perceptions and future expectations (O'Loughline and McFadzean, 1999). O'Shannassy, (2001a) states that "mental models or cognitive maps" are described as the total of interconnected information stored by the person. Consequentially, strategic managers always tend to deal with strategic options which need speed of response to develop solutions, which depend on the manager's mental skills in understanding and absorbing the meaning of symbols and the interrelation possibility for those symbols (Hikson, 1987).

The term "mental models" is related to the mental frameworks which individuals own about a precise area (Malan, 2010), and it is also known as cognitive processes or skills which allow individuals to get knowledge by manipulating thoughts and processing beliefs and fresh information into our minds (Pisapia et al 2008; Pisapia et al. 2005; O'Shannassy, 2001a) . According to Davidson et al. (1999), mental models have been employed for many purposes and studied by cognitive scientists as components of efforts to understand how individuals recognize, realize, make judgments and build behaviour in

diverse environments, regarding its ambiguity and uncertainty (Pisapia, 2005). Also mental models have been explained as individual ways of thinking in understanding, predicting and interpreting that domain in which it is controlled by these frameworks (Malan, 2010). Malan (2010), Pisapia et al. (2008), Levesque (2007), Pisapia et al. (2005) and Davidson et al. (1999) stated that mental models depend on our experiences, knowledge, education, values, beliefs and functional background. Also they are formed by “stereotypes, personal biases, groupthink, and ingrained habits” (Levesque, 2007 p. 1). According to Senge et al. (1994, p. 235), mental models are “the images, assumptions, and stories which we carry in our minds of ourselves, other people, institutions, and every aspect of the world”. Mental models, mental tools, schemas, critical thinking, pattern recognition, reframing, reflection, and system thinking cognitive structure, cognitive, mental, bias blinders frame or paradigms are all patterns of cognition process (Malan, 2010; Pisapia et al. 2008; Levesque, 2007; Pisapia et al. 2005). From a business point of view Malan (2010) considered the theory of mental models associated with the study of organizational and managerial cognition which depend upon the cognitive psychology field.

Levesque (2007, p. 1) stated that mental models contain lots of paybacks when we apply them because they help to collect, process, analyse, and arrange information and understand difficult new situations; to understand and analyse how the world works; “guide our behavior as values and deeply held beliefs”.

There are various types of thinking skills used by organizations’ senior management and employees who lead them to use creative thinking processes relating to developing their strategies (Daghir and Al Zaydie 2005; Younis, 2002; Pisapia et al. 2005; Mason, 1986; Stamp, 1981; McKenney and Keen, 1974). Moreover, different researchers classified various types of human strategic thinking relating to their school of thought (Daghir and Al Zaydie 2005). As a result, managers must acquire mental capabilities that can be developed through the use of better cognitive processes (Pisapia et al. 2005), because today leaders face two kinds of uncertainty and ambiguity: what they want to progress and what they look to progress as well as the uncertainty about the ways to close the gap between the certainty and uncertainty (Weber, 1984).

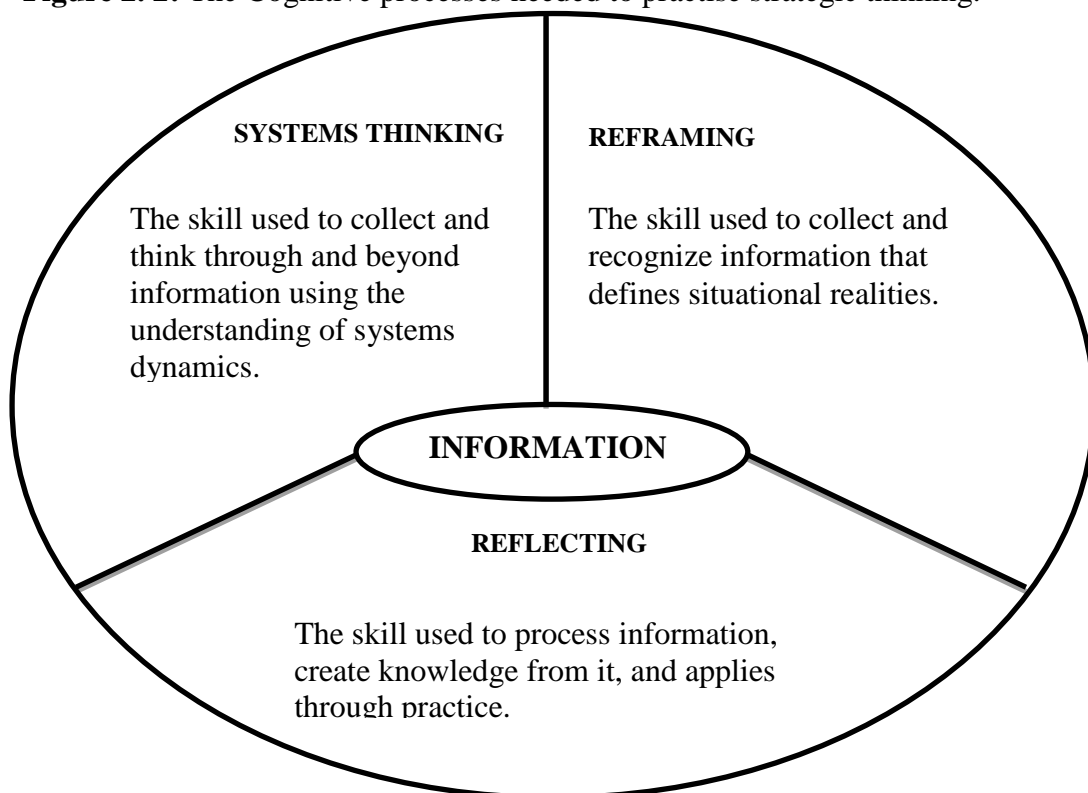


Pisapia et al. (2008) and Pisapia et al. (2005) determined many cognitive skills through the literature but they classified them into two parts: the first part representing the skills that are used to solve existing problems quickly to respond to issues or situations based on taken-for-granted values, goals and frameworks such as: chunking (Simon, 1999; Agor, 1988; Newell and Rosenbloom, 1981; Simon, 1947), cognitive heuristics (Stanwick, 1996) mental imagery, (Stanwick,1996; Anthony et al., 1993), creativity (DePree, 1989), cognitive reduction (Simon, 1947).While, the second part of mental models such as: mental models and schemas (Riedel et al., 2000; Weick, 1995; Senge, 1990), critical thinking (Cohen et al. 2000; Halpren, 1996; Baron, 1994), pattern recognition (Cohen et al. 2000; Simon, 1999; Simon, 1947), reframing (Bolman and Deal, 1994; Morgan, 1986), reflection (Argyris and Schön, 1996; Schön, 1983; Argyris and Schön, 1978; Dewey, 1933), and systems thinking (Senge, 1990). They believe that the concentration is on tools or skills which make organizations more capable of identifying and correcting faults.

Pisapia et al. (2008) and Pisapia et al. (2005), based on the past work of Cohen et al. (2000), Simon (1999), Simon (1947), Bolman and Deal (1994), Morgan (1986), Argyris and Schön (1996), Schön (1983), Argyris and Schön, (1978), Dewey (1933), Senge (1990), determined three skills of strategic thinking: reframing, reflection, and systems thinking. They considered that these skills are interconnected and complementary thought processes which sustain and support one another; they also theorized that when applying these skills they must be applied in tandem, giving managers more ability to manoeuvre through a complex environment. Moreover, these skills allow managers to think strategically and they are the best differentiators between successful and less successful managers (Pisapia et al. 2008). Also, Halis et al. (2010) conducted a study built on the work of Pisapia et al. (2005) to measure the strategic consciousness of managers of five- and four-star hotels in Istanbul, Turkey. They introduced strategic consciousness, defined as the mental ability of an organization which gathers and re-activates all mental functions and considers consciousness as a structure which consists of reflecting, reframing and systems thinking. Pisapia et al. (2005) argued that managers use the information which is collected through reframing and systems thinking during the process

of reflection which makes sense out of situations. They indicate that these skills aim to help leaders (1) to reframe issues so they become more obvious and understandable (2) to reflect and develop theories of practice that lead actions and (3) to direct thinking in holistic ways. Moreover, these skills help leaders in seeing events and issues in term of concepts which are considered as useful techniques that lead to thinking effectively about the problems (Pisapia et al. 2008; Pisapia et al. 2005). Figure 3.3 explains the relationship of these cognitive skills to strategies practised by strategic managers.

**Figure 2. 2:** The Cognitive processes needed to practise strategic thinking.



**Source:** adopted from Pisapia et al. (2005).

### 2.10.1 Systems thinking

Systems thinking is the capability of leaders to see systems holistically by recognizing the properties, prototypes, forces and interrelationships that shape the behaviours of the system and produce choices for actions (Sun-Keung and Pisapia, 2010; Pisapia, 2009;

Pisapia, et al. 2008; Levesque, 2007; Pisapia, et al. 2005). Pisapia, (2009), Pisapia et al. (2008), Pisapia et al. (2005) indicate that regarding this concept requires managers to think in an holistic way, identifying the existing problem by extracting models in the information collected before fragmenting the problem into portions. This ability allows individuals to know how realities relate to each other. Moreover, it also allows managers to search the cause or reason for a demand for products and services that their company produces before proceeding any action to meet market demand and look for feedback to help individuals and the company to self-correct. In more detail, Jacobs (2008) believes that systems thinking originated from the field of systems dynamics and they together are considered as a set of tools and methods of thinking containing new language. Halis et al. (2010, p. 162) stated that the idea behind systems thinking “is to see the whole and develop holistic sight in order to solve problems” instead of concentrating on individual elements. In other words, systems thinking implies that “the whole is greater than the parts”, where the whole is considered as primary and the elements considered as secondary (Haines, 2007; Pisapia, et al. 2005). However, in analytical thinking the elements are considered as primary whereas the whole is secondary, which means looking to the whole system instead of trying to break it down into its individual elements, in this way our thinking become more expansive instead of reductive which give us more ability to see interrelationships and prototypes over time (Haines, 2007). Pisapia, et al. (2005) determined four abilities applied in systems thinking:

1. to think in an holistic way.
2. to identify prototypes and interrelationships.
3. to recognize and act upon essential systems properties and particular systems archetypes
4. to recognize and act upon the system imperatives of goal achievement, pattern maintenance, combination and adaptation.

In general, relating to use and practice, systems thinking as defined by Senge, (1990, p. 73) “simplifies life by helping us see the deeper patterns lying behind the events and

details”. According to Haines (2006), systems thinking concentrate on relationships, various outcomes, comprehensiveness and boundaries, the larger system, the environment, and feedback. It balances the focus between the whole and its components, and takes multiple perspectives into account (Cabrera et al., 2008). In addition, in systems thinking, a manager need to knows that he or she is a component of the feedback process instead of standing apart from it (Pisapia et al., 2008; Pisapia, et al., 2005). This understanding constitutes “a profound shift in awareness” which means that there is a connection between staff members of companies which control the way a system operates. This view gained from looking at feedback in this way. Senge (1990, p.78) proposes that “everyone shares responsibility for problems generated by system”. The viewpoint of this feedback becomes more important when managing companies. Within this view companies are often involved in operations which identify the output and direction of the company (Pisapia et al., (2008), Pisapia et al., 2005). Senge (1990, p. 87) advocates that to allow understanding a balancing feedback procedure the systems thinker should “start at the gap – the discrepancy between what is desired and what exists... then look at the actions being taken to correct the gap”. Levesque (2007) indicates that the potential of a system to self-correct by adjusting to feedback is considered as another key part in systems thinking regarding the result of feedback, whether positive or negative. Positive feedback allows a system to conserve its behaviour, whereas negative feedback requires the system to adjust. Also, he asserted that feedback is received by companies from an external environment regarding consumers’ needs, profit margins and external and internal audits. Skaržauskienė (2010 p. 53) recommended that there are three features considered as important for the implementation of the systems thinking approach: (1) “Awareness of systems”, (2) “An attitude towards the organization as an open socio-cultural system”, (3) “The new role of leader as a constructor of the organization”. Jacobs (2008) states that when organizations apply systems thinking they will be capable of: (1) developing novel methods of looking at previous troubles, (2) combining novel information more simply, (3) seeing cause and effect and interrelationships in a more obvious way, (4) noticing the whole instead of the parts, (5) developing patience with increasing application of change and tolerance for delay. Pisapia (2009) indicates that

there are various good and bad habits used in systems thinking skills, as explained in Table 2.3.

**Table 2. 3:** Examples of systems thinking skills habits

<p><b>Good Habits</b></p>	<ul style="list-style-type: none"> <li>• Try to extract rules and/or patterns from the information available.</li> <li>• Find that in most cases external changes require internal changes.</li> <li>• Search for the cause before taking action.</li> <li>• Find that one thing indirectly leads to another.</li> <li>• Try to understand how the facts presented in a problem are related to each other.</li> <li>• Try to identify external forces which affect your work.</li> <li>• Try to understand how the people in the situation are connected to each other.</li> <li>• Investigate the actions being taken to correct the discrepancy between what is desired and what exists.</li> <li>• Look for fundamental long-term corrective measures.</li> <li>• Look for changes in the organization’s structure that lead to significant enduring improvement.</li> <li>• Look at the ‘Big Picture’ in the information available before examining the details.</li> <li>• Seek specific feedback on your organization’s performance.</li> <li>• Think about how different parts of the organization influence the way things are done.</li> </ul>
<p><b>Bad Habits</b></p>	<ul style="list-style-type: none"> <li>• View relationships individually as opposed to being part of an interwoven network.</li> <li>• Break the problem into parts before defining the entire problem.</li> </ul>

**Source:** Pisapia, J. (2009).

### 2.10.2 Reframing

Halis (2010) stated that reframing is considered as a cognitive skill which allows one to see and assess events and realities from different perceptions. It is considered as a method that leaders can apply to challenge mental models and develop various viewpoints and substitute ways of viewing the world (Levesque, 2007). Moreover, it involves challenging the underlying beliefs and assumptions on which organizational relationships and procedures are based (Linkow, 1999). However, Pisapia (2009), Pisapia, et al., (2005) stated that reframing relates to leaders’ capability to change attention across multiple viewpoints, mental models, and frames, as well as paradigms, in order to create new

visions and choices for actions. The aim of reframing is to create working knowledge by rotating through suitable conceptual models for the actions and events observed (Pisapia et al., 2008). Also, reframing aids managers to create new insights and choices for actions to be applied when trying to understand unusual, sophisticated events or issues from new perspectives, as well as allowing managers to determine and understand critical situations, generate various alternatives, and communicate more efficiently (Levesque, 2007). Levesque (2007, p. 3) added that the reframing process requires managers to be honest concerning their motives and to ask questions such as, “Am I really gathering information to help make a smart choice, or to just look for evidence confirming what I know I would like to do?” In addition, reframing helps us to collect information and generate knowledge and contains classification and understanding the meaning of fresh information, actions, and experiences (Pisapia et al., 2005). Moreover, in companies the notion is considered as an act of courage to go against embedded norms and firmly held leadership attitudes (Linkow, 1999).

The researchers Pisapia et al. (2005) determined four abilities applied in reframing skill:

1. to stop judgment whilst suitable information is collected.
2. to be able to determine and understand the skills of mental models, paradigms, and frameworks which are being applied to frame a problem, issue or situation.
3. to be qualified to use various mental models, frameworks and paradigms to understand one position.
4. to evaluate and improve one's own and others' mental models.

According to Bolman and Deal (1991 p.17), “Managers who master the ability to reframe report and liberating sense of choice and power. They are able to develop unique alternatives and novel ideas about what their organization needs. They are able to tune in to people and events around them and are less often startled by organizational perversity, and they learn to anticipate the turbulent twists and turns of organizational life. The result is managerial freedom – and more productive, humane organizations”.

Pisapia (2009) and Pisapia et al. (2008) explained that reframing allows individuals to sort throughout problems and opportunities, to see problems in ways that enable them to map out various strategies and determine directions before others notice or observe them. Also, they considered that an individual carrying this ability will be able to identify when the information exists from only one perspective.

Levesque (2007) identified steps in the reframing process: the first, is to determine, surface, and realize the mental model skills that are being applied to frame a situation, issue or problem in others and ourselves. According to the researcher, this step contains open dialogue and strict investigation and exploring the underlying suppositions that are working on the team, so managers need to step back and analyse what mental models are being applied to frame this specific issue, not only from a personal point of view, but from a shared perspective to reach a reciprocal understanding of the issue. The second step is to define the problem accurately, because oftentimes our suppositions as well as current mental models unconsciously frame an issue; then we come up with a solution for the wrong problem. So, to avoid this position, managers must take the problem apart and examine it from a variety of angles before taking any action to solve it. Levesque (2007, p. 3) argues when mental models, assumptions, and accurate problems are recognized, there are various techniques that managers can apply to reframe the challenge. One of the techniques which leaders can apply is the “technique of appreciative inquiry to reframe the challenge and ask questions such as, ‘What would be the ideal situation?’ ‘What’s possible?’ Such questions can broaden the scope of challenge, set our curiosity in motion and provide inspiration for new possibilities”. Pisapia (2009) identified various habits used in reframing skill, as explained in table 2.4 below.

**Table 2. 4:** Examples of reframing habits

<b>Good Habits</b>	<ul style="list-style-type: none"><li>• Seek different perceptions.</li><li>• Track trends by asking everyone if they notice changes in the organization's context.</li><li>• Ask those around you what they think is changing.</li><li>• Engage in discussions with those whose values differ from yours.</li><li>• Use different viewpoints to map out strategies.</li><li>• Recognize when information is being presented from only one perspective.</li><li>• Listen to everyone's version of what happened before making a decision.</li><li>• Engage in discussions with those who have different beliefs or assumptions about a situation.</li></ul>
<b>Bad Habits</b>	<ul style="list-style-type: none"><li>• Find only one explanation for the way things work.</li><li>• Decide upon a point of view before seeking a solution to a problem.</li><li>• Create a plan to solve a problem, before considering other viewpoints.</li><li>• Discuss the situation only with people who share your beliefs.</li></ul>

**Source:** Pisapia, J. (2009).

### 2.10.3 Reflection

Pisapia et al. (2008) and Pisapia et al. (2005) consider reflection as a cognitive skill which includes cautious consideration of any exercise or belief that encourages understanding of cases and the applying newly gained knowledge to these cases. Halis et al. (2010, p. 162) argued that this notion indicates that building a number of intuitive standards for future issues which are supported by experiences and “capability to apply knowledge for new situation and facts”. Levesque (2007) believes that reflection is a practice which contains accurate collecting and examination of information relating to our experience, behaviour, and perceptions, as well as our beliefs. Reflection is a new knowledge; we apply it to increase and deepen our “self-awareness”, to be able to bring mental models to the surface in the easiest way. According to Sun-Keung and Pisapia (2010), Pisapia (2009), and Pisapia et al. (2005), the term relates to managers’ capability to combine rational and logical thinking together with experimental thinking through experience, information, and perception to produce judgment in regard to what has happened to create intuitive principles which direct what is happening in the present time and to help in directing



future actions. Individuals with this capability are able to understand the present, past, and maybe the future through recognizing why specific choices worked and other choices did not, also, “they would demonstrate a willingness to question their assumption, experiences, and knowledge to understand situations, and how to think about them and inform action” (Pisapia et al. 2008 p. 7). Finally, Pisapia (2009) identified various good and bad habits used in reflecting thinking skill which are explained in table 2.5.

Pisapia et al. (2005) identified five capabilities applied in the reflection process, as follows:

1. to recognize why specific alternatives work and other alternatives do not.
2. to apply double loop learning leading principles.
3. to apply knowledge, experience and perceptions to know issues and the way to think about them.
4. to combine experiences, perceptions, and knowledge and to understand issue and way of how to think about them.
5. to apply your present experiences, perceptions, and knowledge, and that of others from past experience, to generate understanding of the present and the future.

**Table 2. 5:** Examples of reflecting habits

<b>Good Habits</b>	<ul style="list-style-type: none"><li>• Review the outcomes of past decisions.</li><li>• Reconstruct an experience in your mind.</li><li>• Consider how you could have handled the situation after it was resolved.</li><li>• Accept that your assumptions could be wrong.</li><li>• Acknowledge the limitations of your own perspective.</li><li>• Ask “WHY” questions when trying to solve a problem.</li><li>• Set aside specific periods of time to think about why you succeeded or failed.</li><li>• Frame problems from different perspectives.</li><li>• Connect current problems to your own personal experience and previous successes.</li><li>• Stop and think about why you succeeded or failed.</li><li>• Reconstruct an experience in your mind to understand your feelings about it.</li><li>• Take into account the effects of decisions others have made in similar situations.</li></ul>
<b>Bad Habits</b>	<ul style="list-style-type: none"><li>• Ignore past decisions when considering current similar situations.</li><li>• Ignore your past experiences when trying to understand present situations.</li></ul>

**Source:** Pisapia, J. (2009).

### **2.11 Characteristics of strategic thinking leaders**

Due to the quick changes in organizational environments, managers and leaders at every level of the organization must be able to act in a strategic way. Linkow (1999, p. 34) believes that “people who are successful strategists have distinct qualities and act in distinct ways”. To understand the strategic thinking process, Bonn (2001, p.64) believes that “strategic thinking requires a dual-level approach that investigates the characteristic of an individual strategic thinker as well as the dynamic and processes that take place within the organizational context in which the individual operates”. Thus, she identified three characteristics that a strategic leader must possess: a holistic understanding of the company as well as its environment; creativity; and a vision for the future (Bonn, 2005, 2001). For this purpose, Ratcliffe (2006, p.40) indicates that the need for future thinking implies that individuals must be capable first of imagining the future instead of

forecasting, planning, and predicting. Therefore organizations are required to anticipate the future and be prepared for it through “a mindset that embraces individualism, collaboration and innovation”, to face various environments which are basically different from the present environment. This could be implemented through learning to develop and use different methods and techniques such as scenario thinking. Moreover, Jelence and Swiercz (2011) believe that strategic thinking without professional capabilities will have an effect when utilized in a precise industry, company, or situation. Thus, they consider professional capabilities as a prerequisite for any type or level of strategic thinking; so managers need to understand the collected information, familiar with the technical processes, human resources which lead to accomplish mission, and managing strategic issues.

Pisapia and Robinson (2010 p. 9) propose that the one who acts in dynamic environments (i.e. rapidly changing environments) is the manager’s ability to achieve four missions: (1) expecting changes, opportunities and challenges in external and internal environment, (2) “building the capacity of their organizations by anchoring the learning in engaged, self-managed followers/ teams” (3) constructing the social capital important to mobilize actions, and (4) Creating and crystallizing common values and direction in “a generative/minimum specifications manner.”

Also, Hinterhuber and Popp (1992) indicate that there are two important characteristics that differentiate between strategic thinkers and others:

1. Having the ability to know the meaning and importance of events without being influenced by the current view, changing trends, or prejudices.
2. Having the ability to make decisions quickly and adopt appropriate action as well as the work required without being influenced by a perceived danger.

On the other hand, strategic managers can relate their decisions’ success to the aspects of their creativity and imagination which in turn reflects the activities’ design and organizational practices in an obvious way (Mason, 1986).

## **2.12 Summary and conclusion**

In summary, the literature relating to strategy concepts and its development, strategic thinking has been reviewed. In more detail, this chapter started with a brief discussion of the background of the concept of strategy from different points of view, the schools of thought in treating the process of strategy formation in different ways, strategy development including strategic management and strategic planning to achieve an organization's objectives effectively and obtain competitive advantage have been explained and discussed. Moreover, this chapter reviewed the literature on strategic thinking, both theoretical and empirical, in more detail in order to determine the main issues of this concept, the cornerstone of this study, from different points of view. Basically, strategic thinking studies the past, present and future through giving importance to dynamic, uncertain and turbulent business environments which threaten many organizations and industries. Also, building the future of organizations depends on those organizations learning to create effective strategies to deal with an unknown future or uncertainty (Thompson, 2001). This chapter discussed the literature relating to strategic thinking concepts, the importance and advantages and the methodology vision for strategic thinking patterns were reviewed and discussed the relationship between strategic thinking and strategic planning. Finally, the skills of strategic thinking, and the characteristics of strategic thinking leaders were explained at the end of this chapter.

**CHAPTER THREE**  
**RESEARCH METHODOLOGY**

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## **Chapter Three**

### **Research Methodology**

#### **3.1 Introduction**

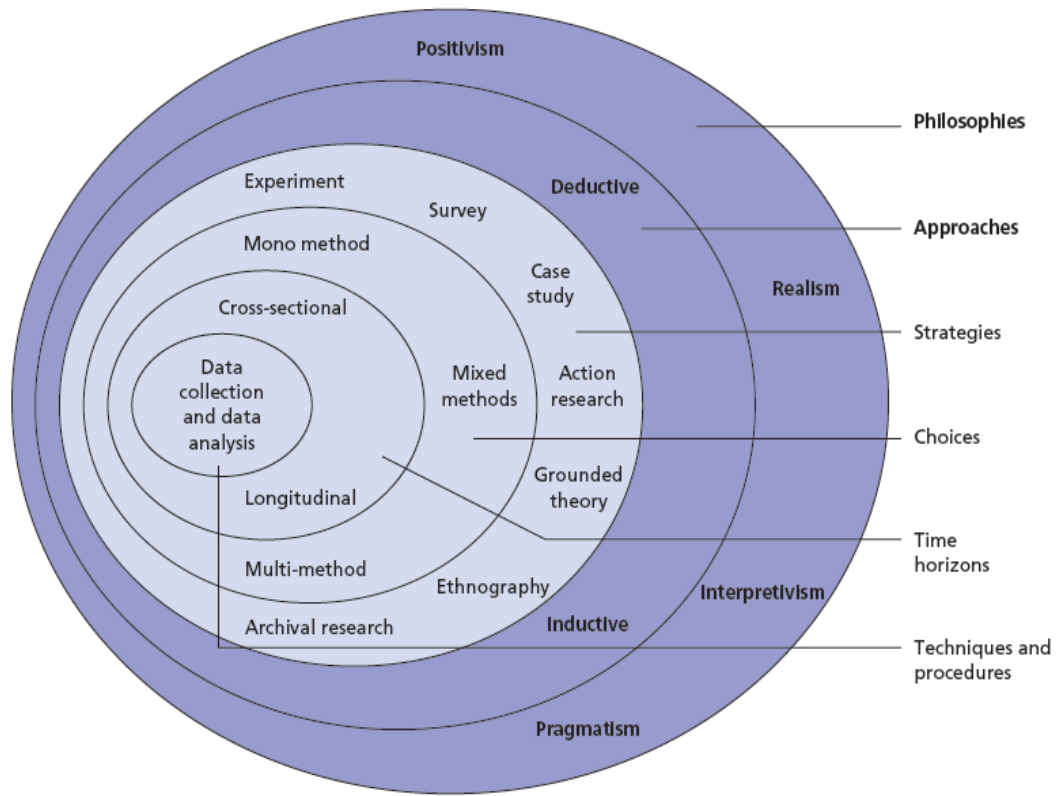
The aim of this chapter is to describe the methodology which has been used during this research and the selection of the different aspects related to the research process. The chapter is divided into six major parts. In part 3.2, the research methodology is explained. In part 3.3, the research philosophy is introduced. In part 3.4 the applied research approach in this study is discussed. In part 3.5 the research strategy is presented, including research design process and time dimension. In part 3.6 the data collection method is discussed, including the research questionnaire and the research population and respondents. In part 3.7, the validity and reliability of the data collection method are discussed and finally, in part 3.8 the statistical methods which are used in this research are presented and explained.

#### **3.2 Research methodology**

Research methodology relates to “how research should be undertaken, including the theoretical and philosophical assumptions upon which research is based and the implications of these for the method or methods adopted” (Saunders et al. 2009, p. 595; Saunders et al. 2007, p. 481), while Lancaster (2005) describes the methodology process as the general category of research approach being used in a business research project and which relates mainly to the approach to data collection. Collis and Hussey (2003) argue that methodology is concerned with the overall research process, from the theoretical underpinning stage to the collection and analysis of the data. Saunders et al. (2009) define the research process as a group of linked multi-stage processes needed in order to undertake and complete a research project. Furthermore, the research methodology contains a group of different research philosophies, approaches, paradigms and methods taken by a researcher to carry out his research. Therefore, Stiles (2003) stated that these different research philosophies and approaches are an important consideration when undertaking any research study. In this context,

Saunders et al. (2009) present the important steps of the research process and describe them as layers of an onion that need to be peeled away in order to reach a decision concerning the research philosophy, approaches, strategies, time horizons, and techniques and procedures (data collection methods), as illustrated in figure 5.1.

**Figure 3. 1:** The Research Onion.

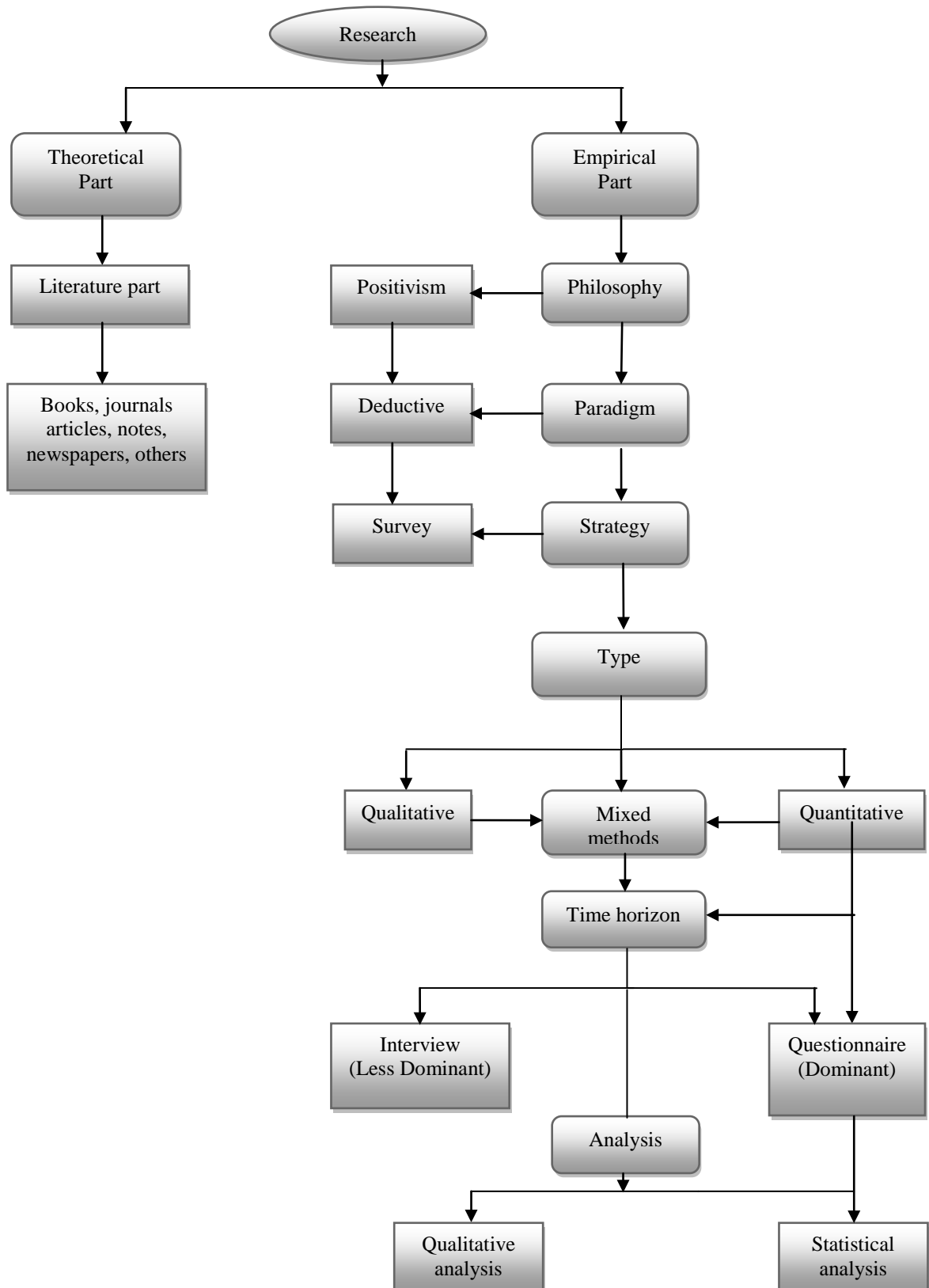


Source: Saunders et al. (2009, p. 108)

Understanding research methodology is important because it leads to valid values and answering research questions and also allows researchers to be critical and analytical in relation to the presented knowledge. Consequently, researchers must always have a conceptual plan as to how the research should be carried out (Adams et al. 2007). In this way, the research aim and objectives must be identified first in order to choose the appropriate methodology (Saunders et al. 2009). As an illustration, figure 5.2 clarifies and summarizes the overall methodology of the current research process.



**Figure 3. 2:** Research methodology of this study.



Therefore, based on this discussion, the main aim of this research is to study the extent of the practice of strategic thinking through examining strategic thinking in Jordanian Publicly Quoted Companies, and to contribute to an understanding and assessment of strategic thinking in the companies investigated.

### **3.3 Research philosophy**

The concept of the paradigm is considered as important to the research process in all fields of study. A paradigm is a very wide conception of the nature of scientific endeavour within which a given enquiry is undertaken (Mangan et al, 2004). Gummesson (2000, p. 18) observed that the term paradigm was brought to the fore by Thomas Kuhn in the early 1960s, and can be used to indicate “people’s value judgements, norms, standards, frames of reference, perspectives, ideologies, myths, theories, and approved procedures that govern their thinking and action”. Saunders et al. (2007) stated that a research paradigm or philosophy relates to the way a researcher thinks about the development of knowledge. A research philosophy also reflects the advance of knowledge and the nature of that knowledge (Saunders et al., 2009). Moreover, the research philosophy which is adopted includes essential assumptions about the way in which the world is viewed and “these assumptions will underpin your research strategy and the methods you choose as part of that strategy” (Saunders et al. 2009, p. 108). Furthermore, the philosophical approach that a researcher adopts plays an essential function in business and management research and needs to be determined early on in the research process (Remenyi et al. 1998). Consequently, many authors (Saunders et al. 2009; Mangan et al. 2004; Remenyi et al. 1998; Collis and Hussey, 2003; Easterby-Smith et al. 2002; Hussey and Hussey, 1997) state that there are two different philosophical approaches that determine how social research is undertaken, positivism and phenomenology. Both approaches have many alternative names, as illustrated in table 5.1.

**Table 3. 1:** Alternative terms for the main research paradigms and philosophies

<b>Positivism philosophy/Paradigms</b>	<ul style="list-style-type: none"><li>• Quantitative</li><li>• Objectivist</li><li>• Scientific</li><li>• Experimentalist</li><li>• Traditionalist</li></ul>
<b>Phenomenology philosophy/Paradigms</b>	<ul style="list-style-type: none"><li>• Qualitative</li><li>• Subjective</li><li>• Humanistic</li><li>• Interpretivist</li></ul>

**Source:** Hussey and Hussey (1997, p. 47)

According to Partington (2002), the positivist approach is drawn from combining logic and rationality with empirical observation. The main fundamental idea of the positivist approach is that the social world exists externally to the researcher and that properties of this external world should be measured by applying objective methods instead of being inferred subjectively through using observation, intuition, sensation or reflection (Gray 2004; Easterby-Smith et al. 2002). According to Hussey & Hussey (1997, p. 52) “Positivism is founded on the belief that the study of human behaviour should be conducted in the same way as studies conducted in the natural sciences”. Furthermore, Remenyi et al. (1998, p. 33) states that in the positivist approach the researcher “is independent and neither affects nor is affected by, the subject of the research”. The positivist approach is associated with quantitative data (Mangan et al, 2004) and tends toward using questionnaires for data collection and statistical analysis (Stiles, 2003). According to Henn et al. (2006), positivist philosophy is characterized by some distinguishing features: it seeks to explain social phenomena by observing cause and effect; it favours quantitative measuring instruments, including questionnaire surveys, experiments and content analysis; it is deductive (to test an existing theory by observation); it uses the scientific method, which emphasizes control, standardization and objectivity. In the same context, Stiles (2003) states that a positivist approach adopts the stance that the researcher will function remotely from the social world and that evaluation of phenomena identified will be approached through objective methodologies. This approach understands and trusts data which relies upon the removal of the idiosyncrasies of the phenomenon under inquiry to consider what, in

general, can be applicable. Furthermore, this approach is inclined towards the use of questionnaires for collecting data and analytical statistical analysis such as hypothesis testing, random sampling, aggregation, precision and measurement. The outcomes of positivist research may either confirm a theory or result in the modification of the theory in the light of findings (Saunders et al., 2009; Hussey & Hussey, 1997).

The phenomenological approach occurred as a reaction to the application of a positivist approach in the social sciences. The phenomenological approach is based on the view that “‘reality’ is not objective and exterior, but is socially constructed and given meaning by people” (Easterby-Smith et al., 2002, p. 29). The phenomenological approach concentrates on the ways that people make sense of the world, especially by sharing their experiences (Easterby-Smith et al., 2002), and seeks to draw out the language and reasoning of target respondents (Malhotra and Birks, 2006). In the same context, Gray (2004 p. 21) stated that “any attempt to understand social reality has to be grounded in people’s experiences of that social reality”. This approach is associated with a qualitative method to data collection and explanation (Mangan et al, 2004; Stiles, 2003). In other words, this approach uses methods of data collection and analysis which are qualitative and aims towards the examination of social relations, and explains reality as experienced by the people (Adams et al. 2007). Moreover, the phenomenological approach uses relatively unstructured methods of data collection (e.g. in-depth unstructured interviews) (Gray, 2004). This approach is characterized by a number of distinguishing features; it focuses on inductive logic, it seeks opinions and subjective accounts and explanations of participants, relies on qualitative data and is concerned with using small samples. However, Easterby-Smith et al. (2002) highlight major differences between the positivist and phenomenological philosophy (table 5.2).

**Table 3. 2:** Major distinctions between positivist and phenomenological paradigms

	<b>Positivist paradigm</b>	<b>Phenomenological paradigm</b>
<b>Basic beliefs</b>	The world is external and objective	<ul style="list-style-type: none"> <li>▪ The world is socially constructed and</li> <li>▪ Subjective</li> </ul>
<b>Human interest</b>	Observer is independent	observer is part of what is observed
<b>Explanations</b>	Must demonstrate causality	Are the main drivers of science
<b>Research progress through</b>	Hypotheses and deductions	Gathering rich data from which ideas are induced
<b>Concepts</b>	Need to be operationalised so that they can be measured	Should incorporate stakeholder Perspectives
<b>Unit of analysis</b>	Should be reduced to simplest terms	May include the complexity of whole situations
<b>Generalisation through</b>	Statistical probability	Theoretical abstraction
<b>Sampling requires</b>	Take large number selected randomly	Take small number of cases chosen for specific reasons

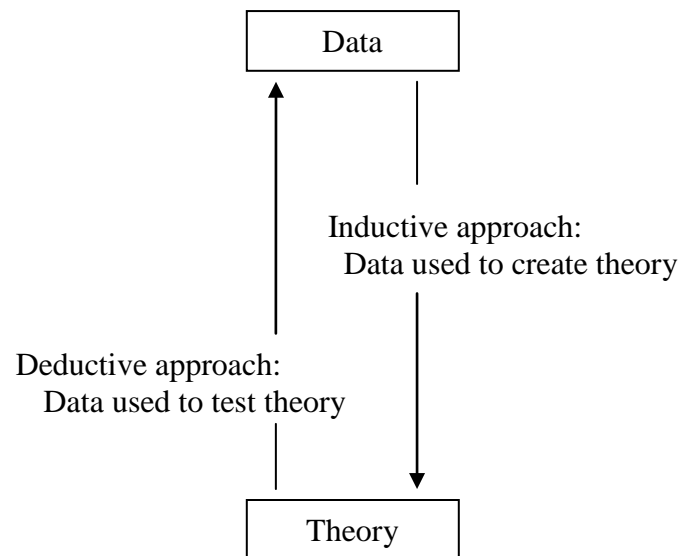
**Source:** Developed from Easterby-Smith et al. (2002).

### 3.4 Research approach

There are two approaches to research: the deductive and inductive approaches. Both approaches allow for the development of theory (Leedy and Ormrod 2010; Saunders et al. 2009). According to Leedy and Ormrod (2010), in the deductive approach researchers may develop a hypothesis from a theory while in the inductive approach researchers may develop a hypothesis from observations. In the same context, the researcher develops a theory and hypothesis and then designs the research strategy to examine the hypothesis, while in the inductive approach the researcher collects data then develops a theory based on data analysis (Saunders et al. 2009). The process of

the deductive approach involves moving from general (theory) to specific (data). The process of inductive research starts from the particular (data) and moves to the general to develop a theory (Kalof et al. 2008). Figure 5.3 illustrates deductive and inductive approaches to the research process, relying on how the theory and the empirical data are linked. These approaches are attached to different research philosophies; the deductive approach owes more to positivism while the inductive approach owes more to interpretivism (phenomenology) (Saunders et al. 2009).

**Figure 3. 3:** Deductive and inductive approaches to research.



**Source:** Kalof et al. (2008, p. 16)

The deductive approach uses highly structured research methodologies and the focus is on generating quantitative data which aim to explain causal relationships. In this context, this approach contains numerical analysis of data to confirm or disprove relationships among variables (Ghauri and Gronhaug, 2010; Partington, 2002). The inductive approach, on the other hand, uses less structured research methodologies and focuses on qualitative data which concentrate on explaining and understanding phenomena (Lancaster, 2005). Consequently, the aims of the deductive and inductive approaches are different. The deductive approach aims to generalize conclusions from a sample to a population, while the inductive approach aims to draw theory or explore

new ideas from observation about the population from which the sample has been taken (Leedy and Ormrod 2010). Quoting Saunders et al. (2009), Creswell (2002) proposed that there are number of essential practical criteria in choosing a research approach; a) the nature of the research subject, b) the time available to the researcher and c) the degree to which the researcher is prepared to indulge in risk. Consequently, taking these criteria into account, this research mainly uses the deductive approach even though it is based on multiple methods (triangulation methods) of primary data collection. The main reasons for choosing the deductive approach are now given:

a) The literature of strategic thinking enables the researcher to define the theoretical framework and to develop testable research hypotheses. This approach, as suggested by Sekaran (1992), is the deductive approach.

b) Deductive research is time saving because it is quicker to complete, albeit that time must be devoted to setting up the research prior to data collection and analysis (Saunders et al. 2009).

c) The deductive approach can be a lower risk when used, although this approach contains risks, such as the non-return of questionnaires. In contrast, it is more risky when applying the inductive approach since the researcher will live with the fear of not getting useful data patterns and, thus, theory would not emerge or appear (Saunders et al. 2009; Cooper and Schindler, 2003).

d) 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).

### **3.5 Research strategy**

According to Saunders et al. (2009, p. 600), research strategy is defined as a “general plan of how researcher will go about answering the research question(s)”. Saunders et

al. (2007), classified research strategies into six categories, namely experiment, survey, case study, action research, grounded theory and ethnography. Experimental methods are usually used in natural sciences research. The case study method aims to develop detailed knowledge about one specific case (Singh, 2006). Action research methods require researchers to work together with practitioners who experience the issues directly. Therefore this requires the researchers to be a part of the organization within which the research is taking place (Saunders et al. 2009). Grounded theory owes much to the inductive approach which, in turn, is offered to researchers investigating qualitative research questions (Kalof et al. 2008). The ethnography method owes more to the inductive approach (Saunders et al. 2009).

Survey strategy owes much to the deductive approach. This strategy is considered popular and common in business and management research. Consequently, survey strategy allows researchers to collect a large amount of data from a sizable population. These data are standardized which enables easy comparison and also helps researchers to use sizable samples in order to generalize findings that are representative of the entire population (Saunders et al. 2009). Saunders et al. (2009) stated that choosing criteria for a particular research strategy among these strategies depends on a different number of elements, including the following: the research objectives; answering research questions; the amount of time available to the researcher and other resources; the degree of existing knowledge; and the philosophical underpinnings which relate to the researcher. Collis and Hussey (2003) argued that adopting the deductive approach leads the researcher to employ experimental and surveys strategies. On the other hand, adopting the inductive approach leads the researcher to employ case study, grounded theory and action research strategies. Based on this discussion, a survey strategy was chosen for the purpose of this research. The rationale for this choice is fivefold:

1. A survey strategy is usually associated with a deductive approach, a popular and common strategy for data collection used in business and management studies (Ghauri and Gronhaug, 2010; Saunders et al. 2009).



2. A survey strategy allows a researcher to collect a large amount of data from a sizable population in a highly economical way (Leedy and Ormrod, 2010; Saunders et al. 2009).
3. A survey strategy gives the researcher more control over the research process and the possibility of generalizing findings that are representative of the entire population (Saunders et al. 2009).
4. A survey strategy is considered an effective method of obtaining opinions and attitudes as well as capturing cause-and-effect relationships studies (Ghauri and Gronhaug, 2010).
5. The data collected by survey are standardised enabling comparison as well as being easy to explain and to understand (Saunders et al. 2009).

### **3.5.1 Research design**

Research design is the general plan of how the researcher will go about answering his/her research questions. This plan must contain clear objectives which are derived from research questions; it must determine the sources from which the researcher intends to collect the research data; and the researcher must indicate the reason behind choosing a particular design. This justification must be based on the research questions and objectives and be in line with research philosophy (Saunders et al. 2009). Research design is the conceptual structure which constitutes the plan for the process of collection, measurement and analysis of data (Kothari, 2004). According to Oppenheim (2005), research design relates to the basic blueprint of the study and the logic behind it, in addition to what will make it possible and valid to extract additional general conclusions from it. Babbie (2008, p. 122) noted that, “Research design involves a set of decisions regarding what topic is to be studied among what population, with what research methods, and for what purpose”.

Sekaran (1992) stated that research design contains a series of rational decisions which involves the following: determining the purpose of the study (exploratory, descriptive) and hypothesis testing (explanatory) researches; determining the extent of researcher interference; deciding the study setting; identifying measurement and measures; deciding data analysis; determining the data collection methods; identifying the time horizon and whether it is a cross-sectional or a longitudinal study; identifying the sampling design; and deciding the unit of analysis. Saunders et al. (2009) and Neuman (2007) classified the process of research design in terms of its purpose into three groups: exploratory, explanatory (causal) and descriptive research. Thus, classifying business studies in term of purposes enables researchers to understand how the nature of the problem controls choice of research design. Consequently, the nature of the problem will determine the choice of research design and whether the study is an exploratory, explanatory (causal) or descriptive study (Zikmund, 2003).

Exploratory research is undertaken when the research situation is understood badly (Ghuri and Gronhaug, 2010). It is undertaken also when researchers do not know much about the current problem because of the scarcity of research in the area. The researcher needs to undertake an exploratory design in order to know more about the nature of the problem and to become familiar with the phenomenon (Cooper and Schindler, 2003; Sekaran, 1992). In other words, this type of research is conducted to clarify the ambiguity of a problem. Moreover, this design helps researchers to crystallize a problem and to determine the information needed for future research (Zikmund, 2003). In the case of descriptive research, on the other hand, the situation is well understood (Ghuri and Gronhaug, 2010). This type of research concentrates on describing the present and attempts to identify the situation of the given phenomenon under investigation by investigating the trend of the characteristics of the research population (Singh, 2006). In other words, this type of research aims to describe phenomena as they exist and also to determine and obtain information on the characteristics of a particular situation (Hussey and Hussey, 1997). Thus, this type of research is undertaken “to portray an accurate profile of persons, events or situations” (Robson, 2002, p. 59). However, Saunders et al. (2009 p. 140) recommends that

descriptive research “should be thought of as a means to an end rather than an end in itself”. Furthermore, cross-sectional and longitudinal studies are the common methods associated with descriptive research (Hair et al., 2003) (see section 5.5.2). Finally, the major purpose of explanatory research is to establish causal relationships between variables. This type of research emphasizes the study of a problem in order to explain the relationships between variables (Saunders et al. 2009). Ghauri and Gronhaug (2010) state that the major task in explanatory research is to isolate the causes and tell whether and to what degree the ‘causes’ result in effects.

The previous discussion and the available literature on the subject of strategic thinking allow the researcher to develop hypotheses and to define the research variables. Bearing the research objectives in mind, the research is descriptive research.

### **3.5.2 Time horizon**

Research, according to Zikmund (2003) and Sekaran (2003), can be characterized by its time horizon: cross-sectional and longitudinal studies. In a cross-sectional study, data are collected at single point of time (Zikmund, 2003). In other words, data can be collected just once in a determined period of time - possibly days, weeks or months - to answer the research questions (Sekaran, 2003). In contrast, in longitudinal studies, data are collected over different periods of time in order to answer the research questions (Sekaran, 2003). Furthermore, this type of study aims to track continuity of response and to detect changes that appear over time (Zikmund, 2003). Deciding which one of these two types of research strategy is to be chosen is determined by a number of issues such as: a) research strategy (Bryman and Bell, 2007; Churchill, 2001); b) the time available to the researcher (Saunders et al. 2007) and c) the purpose of the research (Churchill, 2001). Bearing these criteria in mind, a cross-sectional research type was chosen in this research. The main reasons for this choice are:

a) A cross-sectional study is consistent with descriptive research and the most common methods in social studies, rather than allowing the researcher to analyse existing issues in detail (Neuman, 2007).

b) Cross-sectional study is the most common method of survey research, because a survey method allowing a researcher to gather data from a large number of cases (i.e. a larger sample) in a particular time (Kothari, 2004).

c) A cross-sectional study is suitable for research projects which are undertaken for academic courses because these projects are time constrained (Saunders et al. 2009).

Furthermore, a survey strategy has been used in earlier studies and is considered as a suitable strategy conducted in the subject of strategic thinking research (e.g. Monnavarian et al. 2011; Halis et al. 2010; Sun-Keung and Pisapia 2010; Goldman 2009; Pisapia et al. 2008; Gallen 2006; Pisapia et al. 2005; Daghir and Al Zaydie 2005).

### **3.6 Data collection method**

Oppenheim (2005) defines research methods as those techniques which are used for processing data generation and collection. Cooper & Schindler (2003) defined data as: “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”. According to Saunders et al. (2009), Oppenheim (2005), and Sekaran (2003), there are two ways of data collection which can be used in business research: secondary and primary. Secondary data collection methods use data collected and recorded previously for a purpose other than the current needs of the researcher (Saunders et al. 2009; Blumberg et al. 2008; Zikmund, 2003). Applying secondary data is considered to be an important process in research projects if the secondary data sources are relevant and accessible to current research problems; this will add benefit to the overall research by smoothing the pilot stage of research and provide the researcher with experience and findings which are gained from a wider sample. Saunders et al. (2009) stated that secondary data can be classified as documentary, survey and multiple-source secondary data. Documentary secondary data includes written documents (e.g. books, journal articles, notes and newspapers), non-written

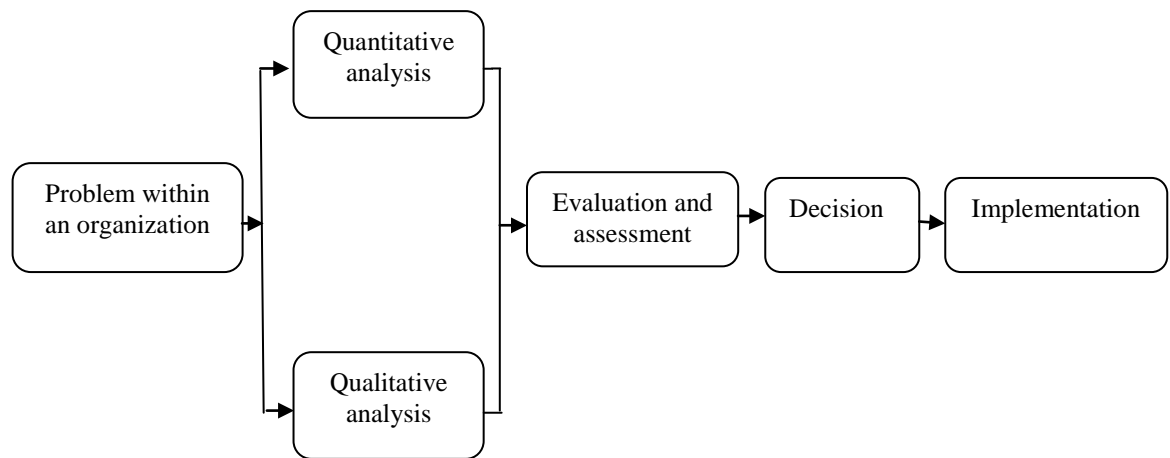
documents (e.g. pictures, voice recordings and television programmes, CD-ROMs); survey secondary data relates to data gathered by using questionnaires which have already been analysed for the original purposes, while multiple-source secondary data depends entirely on documentary or on survey data, or can be combination of the two methods.

On the other hand, primary data are data collected for current research purposes (Zikmund, 2003). Hox and Boeije (2005) state that every time a researcher collects primary data, new data are added to the overall existing social knowledge. Such data can be collected in many ways (e.g. interview, observation or questionnaire) (Saunders et al. 2009). In this context, there are two primary data collection methods, quantitative and qualitative, as suggested by Silverman (2001), and these methods must be understood in both approaches. Consequently, in the quantitative approach, data can be collected using a predetermined instrument (i.e. questionnaire) that yields statistical data, whereas in a qualitative approach, data can be collected by observations and words.

Many authors have advocated combining both quantitative and qualitative methods in the same research project (Waters, 2011; Creswell, 2009; Bryman & Bell, 2007; Mangan et al., 2004; Tashakkori & Teddlie, 2003; Malhorta and Birks, 2003; Saunders et al., 2003). For instance, Saunders et al. (2003, p. 88) state that, “not only is it perfectly possible to combine approaches within the same piece study of research, but in our experience it is often advantageous to do so”. Thus, according to Creswell (2009), these methods have become popular in social and human science research. In this context, Waters (2011) states that both quantitative and qualitative approaches can be combined in the same research and this will lead to an improvement of the decision process. Thus, a comprehensive decision can be made by taking into account all the available information in both quantitative and qualitative approaches (for an illustration see figure 5.4). According to Tashakkorie and Teddlie (2003), there are two ways to combine both approaches: (quantitative and qualitative) and (qualitative and quantitative), but they are applied under two circumstances. First the researcher must determine which is the dominant approach and which the less dominant, and second,

the researcher must determine the way of collecting data in both approaches, either parallel or sequential. For instance, when they are applied parallel, the less dominant approach is used to draw out data which the dominant approach did not accomplish, while when they are applied sequentially, the dominant approach is performed first, with the less dominant next in order to probe and support or strengthen answers as well as to provide a logical extension from the results of the dominant approach. The use of various research approaches and methods in the same study is recognized as triangulation (Hussey and Hussey, 1997) and combining both approaches in the same study will enable the triangulation process to be applied (Bryman and Bell, 2007).

**Figure 3. 4:** Approach to making a decision



**Source:** Waters (2011).

Mangan et al. (2004) argue that combining quantitative and qualitative approaches in the same study “increasingly provides multidimensional insights into many management research problems”. In the current research, based on the above discussion, a quantitative approach was used as the dominant approach and a qualitative approach as the less dominant approach, with the dominant approach (i.e. quantitative) employed first followed by the less dominant (qualitative) approach. Consequently, based on the above discussion, in the current study combined quantitative and qualitative approaches were used as well as secondary and primary data collection methods in order to achieve the study objectives. Based on this

discussion, the reason behind the choice of applying a multi-method approach in this research is twofold:

a) Different methods can be applied for different purposes in a study (Saunders et al., 2009). Describing strategic thinking perspectives, current practices and the population (Jordanian shareholding companies) requires adopting a questionnaire, whereas understanding practices and obstacles requires undertaking personal interviews with a limited number of respondents.

b) The choice of using multi methods will enable triangulation to take place (Leedy and Ormrod, 2001). More precisely, Saunders et al. (2007) suggested that semi-structured interviews may be a valuable method of triangulating data collected by other means, such as a questionnaire. The choice of multi-methods (triangulation) can offer a kind of convergence of findings, can offer complementarity between facts, and can add scope and breadth to a study (Creswell, 1998). Moreover, the choice of a multi-method approach utilizes the strength of each method and expands understanding of the research problem (Creswell, 2009).

### **3.6.1 Self-administered questionnaire**

A questionnaire can be defined as “general term including all data collection techniques in which each person is asked to respond to the same set of questions in a predetermined order” (Saunders, et al. 2007 p. 608). Hair et al. (2003, p. 130) defined a questionnaire as a "predetermined set of questions designed to capture data from the respondents". Ghauri and Gronhaug (2010) stated that questionnaires are among the most popular of data collection methods, and it is the most widely used method of data collection in business and management research (Saunders et al, 2009; Adams et al. 2007). Sekaran & Bougie (2010) and Saunders et al., (2009) pointed out that a questionnaire instrument is a suitable data collection method and is commonly used in survey strategy. Using survey research allows researchers to collect data about the beliefs, attitudes, opinions and characteristics of respondents (Neuman, 2007). Saunders et al. (2009) suggested using a questionnaire to gather explanatory or

descriptive data. Questionnaires are considered the most commonly used method of primary data collection in research on strategic thinking (e.g. Monnavarian et al. 2011; Halis et al. 2010; Sun-Keung and Pisapia 2010; Goldman 2009; Pisapia et al. 2008; Gallen 2006; Pisapia et al. 2005; Dagher and Al Zaydie 2005).

Consequently, the above discussion justifies the use of a questionnaire instrument in this research.

Questionnaires can be categorized into two types: self-administered and interviewer-administered questionnaires (Saunders et al., 2009). Self-administered questionnaires are generally completed by the respondents. In contrast, interviewer-administered questionnaires are completed by the interviewer on the basis of each respondent's answers and the responses to this type of questionnaire. Easterby-Smith et al. (2008) and Saunders et al. (2009) stated that a questionnaire is classified into two types according to how it is administered; self-administered or interviewer-administered. Self-administered questionnaires are usually distributed and administered either personally (delivery & collection questionnaires, i.e. delivered by hand to each respondent and collected later), mailed (postal or mail questionnaires i.e. posted to respondents who return them by post after completion) or on line questionnaires (i.e. delivered and returned electronically). In contrast, responses to interviewer-administered questionnaires, which include telephone questionnaires and structured interviews, are recorded by the interviewer on the basis of each respondent's answer. One drawback of interviewer-administered questionnaires is the difficulty in finding a suitable time for respondents and they are usually more time consuming and costly for the researcher.

The choice of the type of questionnaire is influenced by different factors such as: characteristics of the respondents; size of sample you require; time available to complete collection; and types of question you need to ask (Saunders et al., 2007). The choice of the type of questionnaire is influenced primarily by the nature of the research question and objectives (Saunders et al. 2009). For this research a self-administered



questionnaire was chosen and was considered to be preferable to an interviewer-administered questionnaire. The rationale for applying the questionnaire strategy and self-administered questionnaire was fivefold:

a) The aim of the current study is to investigate and describe opinions, attributes and behaviours of Jordanian publicly quoted companies with regard to the subject of strategic thinking. According to Saunders et al. (2009), such questionnaires tend to be used for descriptive research that is undertaken using attitudes and opinions questionnaires, as well as organizational practices, which will enable the researcher to identify and describe the variability in various phenomena.

b) It is a popular method of primary data collection method in business studies and particularly in the case of big samples (Ghauri and Gronhaug, 2010; Kothari, 2004).

c) Self-administered questionnaires are less time consuming compared to interviewer-administered questionnaires (Sekaran, 2003).

d) Self-administered questionnaires can yield a variety of advantages such as; high response rate, accurate sampling and a minimum of interviewer bias (Oppenheim 2005).

e) Self-administered questionnaires are generally quicker than interviews and can be distributed en masse, while the interview method cannot be used unless many interviewers are employed (Sekaran and Bougie, 2010).

Saunders et al. (2007) divided self-administered questionnaire into three types: a) internet-mediated questionnaire (i.e. delivered and return electronically by using the internet); b) postal or mail questionnaire (i.e. posted to respondents who return the questionnaire by post after completion); c) delivery and collection questionnaire (i.e. delivered by hand to each respondent and collected later). For the current research delivery and collection was chosen as the main data collection method. The main reasons for applying this method are sixfold:

a) Delivery and collection questionnaires are easily distributed by hand to respondents and collected later. This method contains an advantage over postal questionnaires since there is some direct contact with each potential respondent, which might in turn encourage a greater percentage of people to complete the questionnaire (Gray, 2004).

b) Delivery and collection questionnaires allow the respondents to participate (Saunders et al., 2009) as well as giving the researcher the opportunity to introduce the research topic and encourage the respondents to provide their answers frankly (Sekaran, 2003).

c) Delivery and collection questionnaires allow the researcher sometimes to check at collection who has answered the questions (Saunders et al. 2007).

d) Postal questionnaires often provide a low rate of return and an inability to check the responses that have been given which can create a problem of generalization on the basis of the data collected (Gray, 2004), while delivery and collection questionnaires ensure a high response rate as well as accurate sampling (Oppenheim 2005).

e) On-line questionnaires require that respondents know computer skills and how to access the Internet and have the same level of technology, availability of high speed Internet connections (Zikmund, 2003); a condition that cannot be guaranteed in the case of Jordanian publicly quoted companies.

f) Delivery and collection questionnaires method are in line with many previous pieces of PhD business research carried out in the context of Jordan (e.g. Sawalha, 2011; Twaissi, 2008; Aldehayyat, 2006; Al-Khattab, 2006).

### **3.6.1.1 Research population**

The term “research population” refers to any complete set of people, companies, stores, university students, hospitals or bodies sharing some set of characteristics (Zikmund, 2003). In this research the population is determined as all shareholding companies in Jordan which are registered on the Amman Stock Exchange (ASE). The

entire population consists of two hundred and sixty one companies was included in the study. The researcher made a personal visit to the Amman Stock Exchange to get more information about the targeted companies (e.g. companies' addresses). Accordingly, sometimes the whole population was involved in the study and this is called a census (Adams et al. 2007). Therefore, the population in this research is the sample. The population of this research is in line with the study of O'Shannassy (2003) who preferred that the researcher take two or three different organizational sectors to study strategic thinking. The classifications of the companies relating to the Amman Stock Exchange are:

The number of companies that the researcher investigated to conduct the study was as follows<sup>1</sup>:

- 144 service companies,
- 75 industrial companies,
- 27 insurance companies,
- 15 banking companies.

The main reason behind choosing a 100% sample is fourfold:

a) Saunders et al. (2007) stated that it is possible that the researcher can collect data from an entire population if it is of a manageable size, while, if the entire population size is not manageable or there is a lack of research resources, then the researcher can investigate the entire population by using the sample method (Gray, 2004). The researcher felt that the size of the entire population was likely to be manageable in this case.

b) Ghauri and Gronhaug (2010) stated that it is possible to collect data from the entire population and the researcher can choose between surveying the entire population or taking a sample from the population.

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<sup>1</sup> [http://www.sdc.jo/english/?option=com\\_public&Itemid=28&Submit=SDCMembers](http://www.sdc.jo/english/?option=com_public&Itemid=28&Submit=SDCMembers)

c) Saunders et al. (2009, p. 243) argued that this technique is consistent with the research objectives and “statistical analyses usually require a minimum sample size of 30”.

d) Jordanian companies registered at the Amman Stock Exchange contribute to the largest proportion of Jordan’s economy (Aldehayyat and Anchor (2008).

Moreover, three levels of management were included in this study to collect primary data. The questionnaire targeted three management levels randomly; high level, middle level and lower level management. The reasons behind this choice were:

a) In investigating the process of strategic thinking, the researcher needs to direct the questionnaires to all three levels of management in Jordanian publicly quoted companies. Applying strategic thinking can be accomplished by sharing views from different levels of management in the organizational structure which aim to foster strategic thinking among the top team, and encourage all individuals to be involved in the development of innovative or creative ideas and strategies (Bonn, 2005; Bonn, 2001; O’Shannassy, 2000).

b) The approach applied was in line with many previous studies of strategic thinking (e.g. Monnavarian et al., 2011; Halis et al., 2010; Sun-Keung and Pisapia 2010; Pisapia et al., 2005; O’Shannassy, 2000).

C) Both external and internal stakeholders should take responsibility for the process of strategic thinking (O’Shannassy 2003; 2000).

### **3.6.1.2 Research respondents**

In this study the questionnaire was sent to each company and targeted the chief executive or general manager (top management), director managers (middle management) and the employees at a lower level because many authors suggested that studying strategic thinking must be done at every company level in order have a good

application of the strategic thinking process and to get different perspectives from different management levels (e.g. Bonn, 2005; O'Shannassy, 2000). This allowed the researcher to get a clear view relating to the subject of strategic thinking in the publicly quoted Jordanian companies investigated.

### **3.6.1.3 Questionnaire design**

The questionnaire should be constructed very carefully to prove its effectiveness in collecting the relevant information (Kothari, 2004) and mainly to enable precise answers to the questions under investigation (Oppenheim, 2005). According to Sekaran (2003), the process of questionnaire design should focus on three fields:

- 1- The questionnaire wording,
- 2- The measurement principle,
- 3- The questionnaire layout.

### **3.6.1.4 Questionnaire wording**

The question wording is considered to be an essential issue in the process of questionnaire design. The process of wording of each question needs careful consideration to ensure that respondents' responses will be valid (Saunders et al., 2009). In this regard Ghauri and Gronhaug (2010), Kalof et al. (2008), Malhotra and Birks (2006), Lancaster (2005), Oppenheim (2005), Gray (2004), Zikmund (2003) and Sekaran (2003) suggest a number of guidelines to be taken into account when wording questions. The following guidelines were taken into account and summarized in the following way:

- 1- Ask questions in a simple and direct way using clear and unambiguous language.
- 2- Use simple words and avoid using abbreviations or jargon as well as technical terms in questions.

3- Avoid asking multiple questions within one question (double-barrelled questions) as well as negative questions.

4- Avoid using questions that lead respondents to give several answers.

Zikmund (2003) stated that there are two basic types of question which can be used in designing a questionnaire, namely open-ended response and closed-ended (fixed-alternative) questions. Open-ended questions enable respondents to answer questionnaire questions in any way they choose (Sekaran 2003). The advantage of open-ended questions is that they enable respondents to answer freely by using their own words without following a set of predetermined responses (Kalof et al. 2008; Zikmund 2003). However, the disadvantage of open-ended questions is that they are difficult to handle, because of the difficulty of comparing responses across respondents as well as the difficulty of finding ways to quantify the responses (Kalof et al. 2008; Kothari, 2004). In addition, open-ended question responses are time consuming to code (Saunders et al. 2009). In contrast, closed-ended questions are related to a set of alternatives given by the researcher for the respondents to choose from (Sekaran 2003). The advantages of closed-ended questions are that responses can be compared as they have been predetermined. In addition, this kind of question is easier and requires less time to answer (Saunders et al. 2009; Oppenheim 2005; Zikmund 2003). However, the disadvantages of closed-ended questions are the loss of spontaneous replies, bias in the categories of answer, and the fact that they may irritate the participants (Oppenheim 2005).

Following a consideration of the advantages and disadvantages of open and closed-ended questions, closed-ended were dominant in designing the questionnaire. However, the questionnaire ends with an open-ended question to give respondents an opportunity to make additional comments on the topic of strategic thinking that might not have been covered fully. The rationale for choosing closed-ended questions in the research questionnaire is threefold:

- 1- Closed-ended questions are most often used in quantitative survey instruments (Kalof et al. 2008).
- 2- Many projected respondents are in top level management; the researcher felt that using open-ended questions might have been inconvenient and therefore might reduce the response rate of the questionnaire.
- 3- A review of the literature of strategic thinking (e.g. Monnavarian et al., 2011; Halis et al., 2010; Sun-Keung and Pisapia, 2010; Pisapia et al., 2008; Pisapia et al., 2005) supported the use of closed-ended questions and allowed the researcher to develop options for the answers.

#### **3.6.1.5 Measurement scale**

According to Zikmund et al. (2009); Adams et al. (2007); Malhotra and Birks (2006) and Sekaran (2003) there are four types of scales used in business research. The four scales of measurement are nominal, ordinal, interval, and ratio scales. Cooper and Schindler (2003) state that the choice of an appropriate scale depends on the nature of the data required. Moreover, the different scaling helps the researchers to decide the appropriate scales to use in their study (Sekaran, 2003). In this research two types of measurement scales were used regarding the use of closed-ended questions to get the required data. According to Adams et al. (2007) the nominal scale employs numbers or letters as labels to identify or classify objects. This scale was used to obtain information about the gender, age, education level etc. of the respondents as well as obtaining information about their companies. The aim behind using the nominal scale was to categorize the respondents according to questions in the questionnaire instrument, which are connected to demographic data, for instance, company ownership, and type of industry. The ordinal scale is a ranking scale which arranges categories or objects variables according to an ordered relationship in terms of 'excellent', 'good' 'fair', or 'poor' when using business research (Adams et al., 2007). For instance, this scale uses: strongly agree, agree, disagree and strongly disagree;

frequently, often, sometimes, and never. Therefore, this scale was used in the current research to analyse demographic data such as the level of education, and was used for the other questions in the questionnaire instrument. Interval scales indicate the distance or differences and measure them in units between two equal intervals (Adams et al., 2007), but there is no fixed zero point (Leedy and Ormrod 2010; Gray, 2004). The ratio scale provides the highest level measurement. It has a fixed unique zero point which allows the researcher to compare one point or subject with another in terms of ratio (Hair et al., 2003). In this research interval scale and ratio scale was not used because this research does not contain questions that need to offer responses in the form of rank ordering, since there is no entities which can be measured precisely and that have absolute points. Moreover, this research involves collecting information regarding the practice of strategic thinking which is likely to be perceived differently by respondents.

In addition, in this research a five point Likert scale (rating scale) was used throughout the questionnaire instrument so as to provide the required responses about different issues concerning strategic thinking in order to get the level of agreement and disagreement with each question listed in the questionnaire. According to Gray (2004, p. 400) a Likert scale is considered the most common type of scale used “in which items represent different sub-concepts of the measured object and responses are presented to indicate different degrees of agreement or disagreement with the item”. Consequently, this scale measures respondents’ attitudes concerning some objects (Zikmund et al. 2009). A five-point Likert scale is a balanced scale with an odd number of categories and a neutral point, with an equal number of favourable and unfavourable categories. An odd number of categories should be applied in the scale if a neutral scale response is possible from some of the respondents (Malhotra and Birks, 2006). For instance, the type of Likert scale which was employed in the current research was as follows: 1) strongly disagree, 2) disagree, 3) neutral, 4) agree, and 5) strongly agree. The rationale behind employing a five-point Likert scale in this research is threefold:



1- It is easy for respondents to complete and makes them comfortable with a wide range of choices on its continuum scale (Hussey and Hussey, 1997).

2- It helps the researcher with the process of coding and analysing the data (Hussey and Hussey, 1997).

3- It enables the researcher to employ several statistical techniques for the purpose of conducting statistical analysis and testing (Bryman and Cramer, 2001).

A five-point Likert scale was used in section two, element two to obtain information about the concept and the purpose of strategic thinking. Section three contains elements to obtain information about cognitive processes to practise strategic thinking at the individual level through using reflecting, reframing and systems thinking cognitive skills. This scale was used also to obtain information about practising strategic thinking processes at an organizational level in three elements: in section four through using the organizational organic structure, environmental analysis and intelligent opportunism. Finally, in section five, a five-point Likert scale was used to obtain information about the barriers that impede companies in the practice of strategic thinking.

#### **3.6.1.6 Questionnaire layout**

Questionnaire layout is considered to be a very important issue for respondents (Ghuri and Gronhaug 2010; Saunders et al. 2009; Neuman, 2007). A questionnaire should be designed in such a way that makes it easy to read questions and fill it in (Saunders et al. 2007) in order to improve the response rate to a questionnaire (Saunders et al. 2009; Zikmund et al. (2009; Gray, 2004). A questionnaire's design must be obvious, neat, and easy to follow (Neuman, 2007) by making it more attractive not takes too long to complete to encourage the respondent to do so and return the questionnaire. A length between four and eight A4 pages is acceptable for a self-administered questionnaire (Saunders et al. 2009); otherwise the response rate probably will be reduced (Gray, 2004). The questionnaire must be accompanied by a

covering letter to clarify the purpose of the research (Saunders et al., 2009; Oppenheim, 2005). To ensure that respondents understand the questions and follow the questionnaire instructions correctly, the researcher should provide clear instructions on how to complete each part of the questionnaire (Saunders et al. 2009).

All of these factors were taken into account when designing our questionnaire instrument. The research respondents were provided with two detailed covering letters asking publicly quoted Jordanian companies to cooperate with the researcher: one in English from the University of Huddersfield Business School (see Appendix 2) and the other from the researcher in Arabic (see Appendix 3). Finally, based on the following guidelines presented by Saunders et al. (2009) and Oppenheim (2005) the researcher used the covering letter to:

- motivate respondents to participate and answer the research questions
- explain the importance and purpose of the research
- affirm that the collected data would be used for the main purpose of the research and be treated as and remain confidential
- gain access the companies.

#### **3.6.1.7 Translation of the research questionnaire**

Although English is an official language widely used in Jordan, especially in the business sector, the researcher decided to translate the questionnaire into Arabic in order to make it clear to the respondents in the Jordanian companies, as in previous studies (e.g. Sawalha, 2011; Twaissi, 2008; AL-Khattab, 2006; Aldehayyat, 2006). Therefore, the questionnaire was distributed in two languages which might also have increased the response rate, since some respondents preferred to answer the questionnaire in English. The questionnaire was originally developed in English in the UK (see Appendix 4) and translated into Arabic in Jordan.

According to Malhorta and Birks (2006) there are two alternative techniques for translating a questionnaire in international research; namely, back translation and

parallel translation. In back translation the original questionnaire (English) is translated to the target questionnaire (Arabic) then translated back to the original language (English). Then, all back translations are compared with the original questionnaire (English) to create a new final version. In parallel translation the original questionnaire (English) is translated by two or more independent translators who produce their own versions then meet to discuss and compare these alternatives in order to create the final version of the translation. In this research, the second technique was applied for translating the questionnaire. The rationale behind choosing parallel translation was twofold:

- 1- Parallel translation technique can lead to precise wording of the target questionnaire (Saunders et al. 2009).
- 2- The back translation technique may be repeated several times to identify translation errors, but this is considered to be a time-consuming and cumbersome process (Malhotra and Briks, 2006).

### **3.6.1.8 Questionnaire instrument contents**

The questionnaire used in this research was designed mainly from the literature review and it included four major parts.

Part one aimed to get general background information about the respondents and the characteristics of participants' companies in the Jordanian business sector. In this part the participants' information includes gender, age, education level, management level and position, and total work experience, while the information relating to company profile focused on participants' companies and includes age of company, nature of business, size of company (number of employees) and type of company ownership.

Part two consists of seven statements which describe the concept and the purpose of strategic thinking. This part was designed to examine the extent of companies' familiarity regarding the concept and purposes of strategic thinking. Based on a 5-

point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree) the participants were asked to indicate the extent to which they were familiar with the concept and the purpose of strategic thinking. This part was adopted from different authors (e.g. Monnavarian et al., 2011; Goldman and Casey, 2010; Casey and Goldman, 2010; Adair, 2010; Goldman, 2008; Gilmore, 2007; Allio, 2006; Tavakoli and Lawton, 2005; Bonn, 2005; Abraham, 2005; Heracleous, 2003; O'Shannassy, 2003; Graetz, 2002; Bonn, 2001; O'Shannassy, 2001b; Lawrence, 1999; O'Shannassy, 1999; Heracleous, 1998; Liedtka, 1998a; Liedtka, 1998b; Mintzberg, 1994a; Mintzberg, 1994b; Hamel and Parhalad, 1994; Stumpf, 1989; Mason, 1986; Mintzberg, 1978).

Part three was designed to examine the extent of practice of the strategic thinking process. This part consists of six sections.

Section one is related to the practice of reflective thinking skills. This section includes ten statements adopted from a number of authors (e.g. Pang and Pisapia, 2012; Monnavarian et al., 2011; Pisapia et al., 2011; Halis et al., 2010; Sun-Keung and Pisapia, 2010; Pisapia, et al., 2009; Pisapia, 2009; Pisapia et al., 2008; Pisapia et al., 2005). These statements aim to describe the extent of practising reflective thinking skills by the respondents' companies. Based on a 5-point scale ranging from 1 (Almost never) to 5 (Frequently), the participants' companies were asked to indicate to what extent they practise reflecting thinking skills.

Section two deals with the process of practising reframing thinking skills, this section includes nine statements. These statements aim to describe the extent of practising reframing thinking skills in the respondents' companies. This section is adapted from different authors (e.g. Sun-Keung and Pisapia, 2012; Monnavarian et al., 2011; Pisapia et al., 2011; Yaghoubi, 2011; Halis et al., 2010; Sun-Keung and Pisapia, 2010; Pisapia, et al., 2009; Pisapia, 2009; Pisapia et al., 2008; Pisapia et al., 2005). In this section, a 5-point scale ranging from 1 (Almost never) to 5 (Frequently) was used. In this section, the participants' companies were asked to indicate to what extent the respondents' companies practise reframing thinking skills.

Section three is related to the process of practising systems thinking skills. This section contains twelve statements. These statements were adopted from various authors (e.g. Sun-Keung and Pisapia, 2012; Halis et al., 2010; Pisapia, et al., 2009; Halis et al., 2010; Pisapia, 2009; El-farra et al., 2008; Levesque, 2007; Bonn, 2005; Pisapia et al., 2005; Liedtka, 1998a; Stacy, 1996; O'Shannassy, 2003; O'Shannassy, 2001b; Kaufman, 1991; Senge, 1990). This section was designed to identify the extent to which systems thinking skills are used within Jordanian companies. Based on a five point scale ranging from 1 (almost never) to 5 (frequently), the participant companies were asked to indicate the extent to which Jordanian companies practise systems thinking skills

Section four was designed to describe the company's organic structure. This section includes seven statements. Based on a five point scale ranging from 1 (almost never) to 5 (frequently); in this section the participants' companies were asked to indicate the extent to which they used an organic structure as a relevant factor in practising the processes of strategic thinking. These statements were adopted from various authors (e.g. Monnavarian et al., 2011; Bonn, 2005; Saxby et al., 2002; Tata et al., 1999; Barker, 1993; Covin and Slevin, 1988).

Section five was designed to investigate the extent of implementation of environmental analysis as a relevant factor in practising strategic thinking processes. This section includes five statements. These statements describe the ability of companies to apply external and internal environmental analysis. This section was adopted from a number of authors (e.g. Alkalibi and Idrees, 2009; Wheelen and Hunger, 2008; Saxby et al., 2002; Skipton, 1985). In these statements the participants' companies were asked on a scale ranging from 1 (not important) to 5 (extremely important) to indicate a suitable scale that represents to the participants' companies the implementation of external and internal environmental analysis.

Section six was developed to investigate the extent of practising a process of intelligent opportunism. This section includes six statements. These statements describe the way in which participants' companies determine alternatives strategies

from different management levels which result in higher quality strategies and better competitive advantage. This section was adapted from a number of authors (e.g. Monnavarian et al., 2011; Yaghoubi et al., 2011; El-farra et al., 2008; Liedtka, 1998a; O'Shannassy, 2003; O'Shannassy, 2001b). In this section the participants were asked on a scale ranging from 1 (not important) to 5 (extremely important) to describe to what extent the participants companies take into account the use of intelligent opportunism in determining alternatives strategies from different management levels. Part four of the questionnaire includes two sections.

Section one was designed to investigate the problems that impede the implementation strategic thinking. This section includes eight statements. These statements aim to describe to what extent these problems are associated with implementing strategic thinking by respondents companies. This section is adopted from a number of authors (e.g. Abu Kadara and Rawbdeh, 2006; Bonn, 2005; Abaris, 2005; Mostafa, 2005; McDermot and O'Dell, 2001; Bonn, 2001; Stumpf, 1989). In this section a 5- point scale was used ranging from 1 (strongly disagree) to 5 (strongly agree) and the participants' companies were asked to indicate to what extent these barriers impede the implementation or practise of strategic thinking.

In part four, section two, the participants' companies were asked to indicate any comments or suggestions regarding the subject of strategic thinking which they felt would be helpful for this research.

### **3.6.1.9 Piloting the questionnaire**

Piloting the questionnaire is considered an important and vital process in research. Before a questionnaire is used for data collection it should be pilot tested by the researcher (Saunders et al., 2009; Malhotra and Briks, 2006). Saunders et al. (2009) state that the aim of pre-testing a questionnaire is to refine it so as to ensure the respondents have no problems answering the questions and there will be no problems in the process of recording data. Furthermore, pilot testing allows the researcher to

obtain some assessment of the questions to maximize response rate, validity and the likely reliability of data that will be gathered.

Saunders et al. (2009) and Hair et al. (2003) state that pilot testing the instrument of data collection (i.e. questionnaire) can be conducted more than one time. Therefore, based on the above discussion, in this research the questionnaire instrument was pilot tested in three phases.

In the first version the questionnaire was distributed to four particular colleagues undertaking PhD research in different business topics at the University of Huddersfield Business School. They provided useful feedback and comments concerning the design, content, sequence and wording of the questions. Feedback and comments were taken into account and amendments were made to generate the second version of the questionnaire.

In the second phase the questionnaire was sent to the following academic staff who are specialised in the field of management in UK and Jordan: a) Dr. John Anchor, the Head of the Department of Strategy and Marketing within the Business School, the Director of Graduate Education and Director of the Emerging Markets Research Group within the University of Huddersfield Business School; b) Dr. Ferass Alshebli, the Director of Business Administration and Management Information Systems at Al-Balqa Applied University, Amman University College for Financial and Managerial Science Business Administration Department; c) Dr. Mazen Qteshat at Al-Balqa Applied University Amman University College for Financial and Managerial Science Business Administration Department; d) Dr. Ayman Mazaherh, the Director of the Applied Science Department at Al-Balqa Applied University, Princess Alia University College.

They gave the researcher useful feedback and comments on the structure and content of the questionnaire, which led to some amendments being made.

In the third phase of pilot testing, twelve questionnaires in Arabic and English were distributed to four companies: eight were completed and collected by hand. None of the participant companies recommended any important changes; that is to say that the final version of the questionnaire was easy and obvious to complete and no further pilot test was required, as suggested by Oppenheim (2005); thus the final version of the questionnaire in both Arabic and English was prepared for conducting the study.

### **3.6.1.10 Response rate**

There are 261 registered companies in ASE (i.e. entire population). Three questionnaires were distributed to each of 261 companies between August 2011 and January 2012. A total of 336 questionnaires were returned from the participant companies out of 783 questionnaires which were distributed. Twelve questionnaires were ineligible (i.e. four companies) and two companies were unreachable (i.e. six questionnaires). Saunders et al. (2009, p. 220), suggested an equation to calculate the active response rate as shown below:

$$\text{Active response rate} = \frac{\text{Total number of responses}}{\text{Total Number in sample} - (\text{ineligible} + \text{unreachable})}$$

$$\text{Active response rate} = \frac{336}{783 - (12 + 6)} = 43.92$$

The active response rate is 43.92% which is considered to be an appropriate response rate to conduct the study and is comparable to past studies done in the same country (e.g. Sawalha, 2011; Aldehayyat, 2006). Saunders et al. (2009) states that response rates between 30% and 50% are appropriate for delivered and collected questionnaires. However, a total of 149 companies (i.e. 58.08%) did not respond for a number of reasons. These reasons are shown below in table 5.3.



**Table 3. 3:** Reasons for not responding

<b>Reasons</b>	<b>Number</b>	<b>Per cent</b>
The company policy prevents participation in questionnaires	28	18.79
Busy/no time available	13	8.73
No reasons were given	108	72.48
<b>Total</b>	149	100

### **3.6.2 Semi-structured interviews**

The second data collection method used was interviews. Sekaran and Bougie (2013) argued that one method of gathering data is to interview respondents to acquire data in relation to the issue of interest. The use of interviews, according to Kalof et al. (2008) and Gray (2004), allows the researcher the opportunity to ‘probe’ more detailed responses where the respondent is asked to explain what they have said. Saunders et al. (2009) proposed the following three types of interviews: structured interviews; semi-structured interviews; unstructured interviews.

Structured interviews are used in descriptive studies which aim to collect quantitative data whereby the researcher uses a pre-prepared questionnaire based on a predetermined questions or an identical set of questions is posed to all respondents (Saunders et al., 2009; Gray, 2004). In this type the interviewer reads out the questions and the responses are recorded by the researcher on a standardized schedule, usually with pre-coded answers.

Semi-structured interviews, according to Saunders et al. (2009) and Gray (2004) are non-standardized and this type is used in explanatory studies which can help researchers to gather valid and reliable data which are relevant to the research question(s) and objectives (Saunders et al., 2009). In this type the interviewer has a list of issues or themes and questions to be covered; these interviews may vary from one interview to another, such as: interviewer may not deal with all themes in each interview; the sequence of questions may change based on what direction the interview

takes; and new questions may be asked which are not directed at the start of the interview in relation to new issues which arise. Finally, interview responses will be documented by taking notes or by tape recording (Gray, 2004).

The last type of interviews are unstructured ones (also referred to as 'in-depth interviews') which are also used to explore in depth a general area in which the interviewer is interested (Saunders et al., 2009).

According to Gray (2004) the choice of particular interview techniques as data collection methods will depend in large part on the research aims and objectives. In this research semi-structured interviews were used. Saunders et al. (2009), Kalof et al. (2008) and Gray (2004) indicated that a semi-structured interview allows the researcher to probe views, clarifying opinions where it is desirable for respondents to expand on their answers and to support the findings of the questionnaire.

In this research, a list of five suitable questions were organised for conducting the interviews (see Appendix 5) which were carried out after the questionnaire data collection. 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, no any respondent gave permission for the researcher to tape-record the interview. In the cases where tape-record was not permissible, the recording of the interview was made by note-taking. Moreover, many researchers in previous studies in the context of Jordan used face to face semi-structured interviews, such as those of Sawalha (2011) and Twaissi (2008) and Al-kattab (2006). These interviews were conducted after the questionnaire was administered for a clear understanding of the whole research problem.

### 3.6.2.1 Semi-structured interviews sample

The process of choosing the sample for interviews relates to four decision areas: deciding on a suitable sample size; determining a suitable sampling frame; selecting the most suitable sampling techniques; and choosing potential respondents within each company (Saunders et al., 2009; Hussey and Hussey, 1997). In relation to the first of these, the size of sample can be determined by the research objectives or questions and the available budget and time of the interviewer (Kalof et al., 2008). Based on these determinants, eight companies from those who responded to the questionnaire and cooperated with the researcher were targeted for semi-structured interviews. The rationale behind targeting this number of companies was:

- a) The semi-structured interviews were conducted to explore and support the findings that emerged from the questionnaire. Consequently, the researcher saw that there was no need to interview those who did not respond to the questionnaire.
- b) Targeting a sample size of eight by using face to face semi-structured interviews would save time and cost, since the researcher had limited resources and time (Kalof et al., 2008; Lee, 1998).

The second decision area is concerned with determining a suitable sample frame. The researcher drew a sample from eight companies which were targeted for conducting the semi-structured interviews from those companies who cooperated with the researcher and responded to the questionnaire (112) rather than from the whole targeted population (261).

The third decision area is concerned with choosing the most suitable sampling technique for the current research dependent on the research objectives and the sampling frame which explains the complete list of all elements about the targeted population from which the sample is drawn (Hair et al., 2003). Therefore, the researcher chose the eight largest companies from different sectors, based on the number of employees, to carry out the interviews and to have a greater chance of interviewing different management levels

within those companies (see table 3.4). These companies gave the researcher full cooperation after completing the questionnaire by agreeing to be interviewed, while the other 104 companies did not want to take part in interviews. Regarding semi-structured interview reliability, Easterby-Smith et al (1991) confirmed that it is concerned with whether alternative interviewers would reveal similar information. The researcher, on the other hand, provided the interviewees with a list of the interview themes before conducting the interview. The rationale behind this procedure is to promote validity and reliability by enabling the interviewees to consider the information which is requested and allowing interviewees the opportunity to assemble supporting organisational documentation from their files (Saunders et al., 2003).

**Table 3.4:** Number of respondents companies in terms of business sector.

<b>Business sectors</b>	<b>No. of companies</b>	<b>Management level</b>
Industrial	1	High level
Industrial	1	Middle level
Industrial	1	High level
Industrial	1	Middle level
Insurance	1	High level
Banking	1	High level
Service	1	Middle level
Service	1	High level

The fourth decision area is the selection of potential respondents within each company. Since the semi-structured interviews were designed fundamentally to support and probe the quantitative findings, the researcher conducted semi-structured interviews with different levels of management, mainly top and middle level management, with the same respondents who had completed the questionnaire. The main reason for targeting the same respondents was in order to have valid findings, since the respondents were required to explain their response to the questionnaire, and in order to maintain a level of consistency of responses.

### **3.6.3 Validity and reliability**

Sekaran and Bougie (2013) considered that the goodness of measures developed is important criteria for accuracy in the research findings through measures of validity and reliability of the instrument.

#### **3.6.3.1 Validity of data collection method**

Validity is concerned with the extent to which the instrument developed is indeed accurately a measure of what it is intended to measure (Sekaran and Bougie, 2013; Oppenheim, 2001). In the same context, it is concerned with whether or not the extent of the data collection method or methods accurately measure what is intended to be measured, and explain the extent to which the research results accurately represent what is really happening in the situation (Saunders et al., 2009; Hussey and Hussey, 1997). According to Creswell (2009) and Marczyk et al. (2005), validity can be categorised into two types: external validity and internal validity. External validity refers to the degree to which research findings can be generalized to the whole population or other conditions, participants, times, and places, while internal validity refers to the ability of the researcher to draw accurate inferences from the data collected about the research population in an experiment.

To meet the requirements of validity and to increase the degree of data collection methods (i.e. questionnaire and semi-structured interviews), as suggested by Saunders et al. (2009) and Molhotra and Briks (2006), the researcher followed a number of procedures:

- 1) The questionnaire instrument was pilot tested in three stages before it was used for data collection: colleagues; academic staff; target Jordanian companies
- 2) The researcher had undertaken an extensive literature review to clarify and define all aspects relating to the research questions used in the questionnaire instrument. In the current research many questions which were used in the questionnaire

instrument were adopted from conceptual and related studies in the field of strategy and strategic thinking, which would give more emphasis to meeting the requirements of validity. Moreover, the researcher used two methods to collect the research data; a self-administered questionnaire as a dominant method for collecting quantitative data and semi-structured interviews and a less dominant method (i.e. qualitative) to support the quantitative results.

### **3.6.3.2 Reliability of the data collection method**

Reliability refers to the consistency or dependability of a measurement technique and is concerned with the consistency or stability of the score obtained from a measure of assessment over time and across settings or conditions (Marczyk et al., 2005). In the same context, reliability refers to the degree to which a measurement will reproduce consistent findings if the measurement is applied to the same sample at different times (Malhotra and Birks, 2006; Sekaran, 2003; Bryman and Creamer, 2001). According to Balck (1999), consistency within the data collection instrument explains the uniformity of responses to questions that make up an operational definition. Balck (1999) added that the lack of consistent answers due to misinterpretation can lead to the introduction of error in the measurement. To ensure that the data collection was error free in order to minimize the biases of data collection instruments, the researcher had taken into account a number of procedures. Within the process of distributing and collecting the questionnaire instruments, the researcher tried to ensure that it was the same participants who had completed the questionnaire and was responsible for assessing the extent of strategic thinking in each company to conduct interviews with the same participants. The main reasons for targeting the same participants was to have valid results as well as to ensure to the participants that the collected data would be analysed with complete confidentiality and would not be used for other purposes (Saunders et al., 2009).

Cronbach's Alpha of internal consistency method was taken into account in order to evaluate overall the measurement of the research scale, where coefficient Alpha gives the researcher an estimate of the proportion of the overall variance that is not due to error; this represents the reliability of the scale (Oppenheim, 1992). The internal consistency method is generally associated with Cronbach's Alpha coefficient and its variant. The Cronbach's Alpha can range from 0 to 1. The recommended minimum acceptable level of reliability according to Hiar et al. (1998), is greater than 0.5, while Nunnally (1978) argued that Cronbach's Alpha coefficients between 0.5–0.6 are acceptable for exploratory research. George and Mallery (2003) considered Cronbach's Alpha coefficients greater than 0.5 are poor while less than .5 is unacceptable. They provide a set of rules for Cronbach's coefficient alpha and are categorised as follows: the Cronbach's alpha coefficient >0.9 excellent, > 0.8 good, > 0.7 acceptable, > 0.6 questionable, > 0.5 poor, and <0.5 unacceptable. In this research, the test of internal reliability, Cronbach's Alpha was estimated, ranged between 0.570 and 0.865 for the subscales and 0.895 for the total scale. Table 5.5 shows the values of Cronbach's alpha for total scale and for the eight factors.

**Table 3. 5:** Reliability statistics result using Cronbach's Alpha.

No.	Factors	No. of items	Reliability
1	Concept and purpose of strategic thinking	7	.766
2	Reflecting thinking skills	10	.726
3	Reframing thinking skills	9	.570
4	Systems thinking	12	.760
5	Organic structure	7	.794
6	Environmental analysis	5	.865
7	Intelligent opportunism	6	.865
8	Strategic thinking barriers	8	.801
<b>Total scale</b>		64	.895

### 3.7 Statistical methods used for data analysis

SPSS v.20 was applied to the process of data analysis. Using SPSS software helps the researcher to analyse the research data in relation to researcher specific needs and

research problems. A number of statistical techniques were used in order to achieve the objective and answer the research questions (Sekaran and Bougie, 2013).

### **3.7.1 Descriptive statistics**

Descriptive statistics allow the researcher to describe (and compare) variables numerically (Saunders et al., 2009). Descriptive statistics such as mean, mode, median, range, standard deviation, percentages, frequency distribution, minimum, maximum, sum, graphical presentation are used to compare or describe variables numerically (Saunders et al., 2009; Gray, 2004). Cooper and Schindler (2008) argued that descriptive statistics are a type of statistic which is usually applied at the beginning of the analysis phase in order to provide a preliminary description of the data which will guide the rest of the data analysis process.

### **3.7.2 Inferential statistics**

Inferential statistics can be provided using evidence found in a small sample of a population to make statements about the whole population that the sample is drawn from (Cooper and Schindler, 2008; Leedy and Ormrod, 2005; Gray, 2004). Inferential statistics are classified into two main tests: parametric and non-parametric (Sekaran and Bougie, 2013). The main difference between these two types of tests depends on the type of data and the distribution of those data (Malhotra and Birks, 2006). Parametric tests are applied to test hypotheses when a population is normally distributed as well as being used when the data scale of measurement uses an interval or ratio scales (Cooper and Schindler, 2008; Sekaran, 2003), while non-parametric tests do not have such stringent requirements and make no explicit assumptions about the underlying normality of a distribution in the population as well as the data collected in non-parametric tests measured on nominal (categorical) and ordinal (ranking) scales (Pallant, 2007). Based on this discussion, a non-parametric test was used in this research for the following reasons:



- a) Parametric tests cannot be applied in this research, since all variables deal with nominal and ordinal scales, unlike the parametric tests which require interval and ratio scales (Bryman and Cramer, 2001).
- b) Parametric tests cannot be used since the findings of the Kolmogorov-Smirnov and the Q-Q chart plots (i.e. Normal Quantiles-Quantiles chart plots) for all questions in the research questionnaire were significantly different from a normal distribution, which means that the normality distribution condition is violated. (Bryman and Cramer, 2001; Pallant, 2007).
- c) Non-parametric tests can be used as appropriate when dealing with sociological and psychological variables such as attributes which are considered as ordinal scale in nature (Bryman and Cramer, 2001). This situation is consistent with the research objectives of this study.

Consequently, the following non-parametric tests were used for analysing data in this research:

- **Kolmogorov-Smirnov**

Kolmogorov-Smirnov is a test of normality applied to compare the set of scores scale in the sample against some specified theoretical distribution (i.e. normal distribution) (Bryman and Cramer, 2001). This test is suitable for application when the data is ordinal (Cooper and Schindler, 2008) and should be used when the sample is more than fifty in the analysis (Duckworth, 2008). If the value of ( $p$ ) of the test is less than or equal to 0.05, this indicates that the distribution of the sample is significantly different from a normal distribution (i.e. the distribution of the variables is non-normally distributed). On the other hand, if the value of ( $p$ ) is greater than 0.05, the test indicates that there is no significant difference between the distribution of the sample and a normal distribution (i.e. the distribution is normal). Moreover, the Normal Quantiles-Quantiles chart plots were conducted to investigate how close the distribution of variables was to a normal distribution. The chart plots are used to assess or estimate normality. However, if the observed value for each score falls closely

along the straight line, the data will be normally distributed, while if there is a deviation of scores from the straight line, this explains a deviation from normality (Pallant, 2007).

- **Spearman's rank correlation**

Spearman's rank correlation is a non-parametric analysis which is designed for use with ordinal measures and is used to measure the direction and strength of relationship between two variables (i.e. correlation) (Pallant, 2007). The correlation coefficient value is represented by ( $r$ ) which reflects the direction of the correlation. According to Hair et al., (2003) the correlation values range from -1.0 to +1.0, where -1.0 indicates a perfect negative correlation, whereas +1.0 indicates a perfect positive correlation. Moreover, the significance level which is represented by a probability ( $p$ ) value of any relationship should be examined, where the relationship between variables is statistically significant if the value of  $p \leq 0.05$ , since the probability that a correlation coefficient would have occurred by chance is very low. However, the relationship between variables becomes not significant if the probability ( $p$ ) of correlation test statistics having occurred by chance alone is  $> 0.05$  (Saunders et al., 2009).

- **Kruskal-Wallis test**

Kruskal-Wallis test (referred to as Kruskal-Wallis test H test) is a non-parametric test similar in nature to the Mann-Witney U test. The Kruskal-Wallis test is an alternative to one way analysis of variance (ANOVA) for more than two groups when the dependent variable is not normally distributed. According to Black (1999), the Kruskal-Wallis test can be chosen when the data (i.e. variables) is at least ordinal (Pallant, 2007; Bryman and Cramer, 2001). However, the Kruskal-Wallis test is used to compare the scores in more than two independent groups, where the cases in the different samples are ranked together in one series. If the probability ( $p$ ) is significant (i.e. equal to or less than 0.05), the result is significant and indicates that there are statistically significant differences across the categories (i.e. between categories),

while if the value of the probability ( $p$ ) is greater than 0.05, the result is no statistically significant differences across the categories (Pallant, 2007).

- **Mann Whitney test**

The Mann Whitney test is a non-parametric test which is used to compare differences between two independent categories (i.e. groups); these data should be at least ordinal dependent variables. This is an alternative to the parametric  $t$ -test, where the  $t$ -test would be inappropriate (Cooper and Schindler, 2008; Pallant, 2007). However, the output of this test explains that if the probability ( $p$ ) of the value  $z$  is significant, (i.e.  $p$  value less or equal to 0.05), the result is significant so it indicates a statistically significant difference between the two groups on the basis of the measured variable, whereas if the probability ( $p$ ) of the value  $z$  is not significant (i.e.  $p$  value is greater than 0.05), the test result is not significant so it indicates no statistically significant difference between the two groups.

- **Chi-square test**

The Chi-square test is a non-parametric used to test whether or not there is any statistical correlation between two variables (Sekaran and Bougie, 2013). In the same context, this test allows the researcher to test whether or not there are any statistical differences between two or more groups (Hair et al., 2003). It detects whether or not the two variables are associated: “it compares the frequency of cases found in the various categories of one variable across the different categories of another variable” (Pallant, 2007, p. 212) and “each of these variables can have two or more categories” (Pallant, 2007, p. 214). According to Hair et al. (2003), the Chi-square test used for data of a nominal and ordinal scale which compares the actual frequencies of the responses with the expected frequencies to test the statistical difference between the frequency distribution, where the observed frequencies are the data found from the survey, while the expected frequencies are what the researcher think the population distribution should be (Hair et al., 2003).

The interpretation of the output of the chi-square test indicates that if the ( $p$ ) value for the resulting labelled Pearson chi-square is 0.05 or less, then there is a significant relationship between the two variables and that the two variables are different between their groups, while if the ( $p$ ) value for the resulting labelled Pearson chi-square is more than 0.05, then this indicates no significant relationship between the two variables and that the two variables are not different between their groups (Pallant, 2007).

Moreover, when the researcher decides to use the Chi-square test, an essential assumption must be taken into account concerning the “minimum expected cell frequency” (Pallant, 2007), which should be equal to 5 or greater (or at least 80% of the cells have expected frequency equal to 5 or more). In this case if the output of the Chi-square test violated this assumption, the highly recommended solution is to use the Fisher exact test instead (also provided as part of the output from Chi-square) (Pallant, 2007).

### **3.8 Summary**

This chapter introduced the research methodology, philosophy and design adopted which is concerned with the overall research processes and procedures needed to carry out the research project in order to meet the research objectives. In this chapter, different aspects relating to the research process were discussed and the rationale for choosing these aspects related to the research process was discussed. This includes deciding on the choice of the research approach, philosophy, strategy, design, data collection methods (i.e. quantitative dominant and qualitative less dominant) and the statistical techniques used to analyse the data and test the research hypotheses.

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 and data carried at single point of time. The research used primary and secondary data sources. A questionnaire

was used as the main data collection method (quantitative, dominant approach), while semi-structured interviews were conducted with a subset of the respondents to the questionnaire (qualitative, less dominant approach) to fill the gaps and support the quantitative findings that emerged from the questionnaire. The questionnaire design, wording, measurement scale, translation, instrument contents, piloting and response rate were outlined. Issues of validity and reliability were presented. Furthermore, For the purpose of data analysis, SPSS v.20 was used in order to present and analyse quantitative data, and employ both descriptive and inferential statistics and the chapter ended by discussing briefly a number of statistical techniques used for data analysis (descriptive and inferential statistics) in order to achieve the research objectives. The statistical techniques tests that were used for the purpose of analysing data and testing the hypotheses including: Kolmogorov-Smirnov test; Spearman's rank correlation; Kruskal-Wallis test; Mann Whitney test; and Chi-square test.

**CHAPTER FOUR**  
**HYPOTHESES DEVELOPMENT**

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## **Chapter Four**

### **Hypotheses Development**

#### **4.1 Introduction**

In chapters two the main issues for the research were identified. The aim of this chapter is to explain how these issues will be examined empirically. To accomplish this aim the concept and purpose of practising strategic thinking are reviewed, and existing research related to the practice of strategic thinking processes is identified. Then the relationship between organizational characteristics and the extent of practising strategic thinking are highlighted. The barriers which influence the practice of strategic thinking are investigated. In addition, in this chapter research questions and hypotheses are developed based on the research issues regarding the extent of the practice of strategic thinking processes.

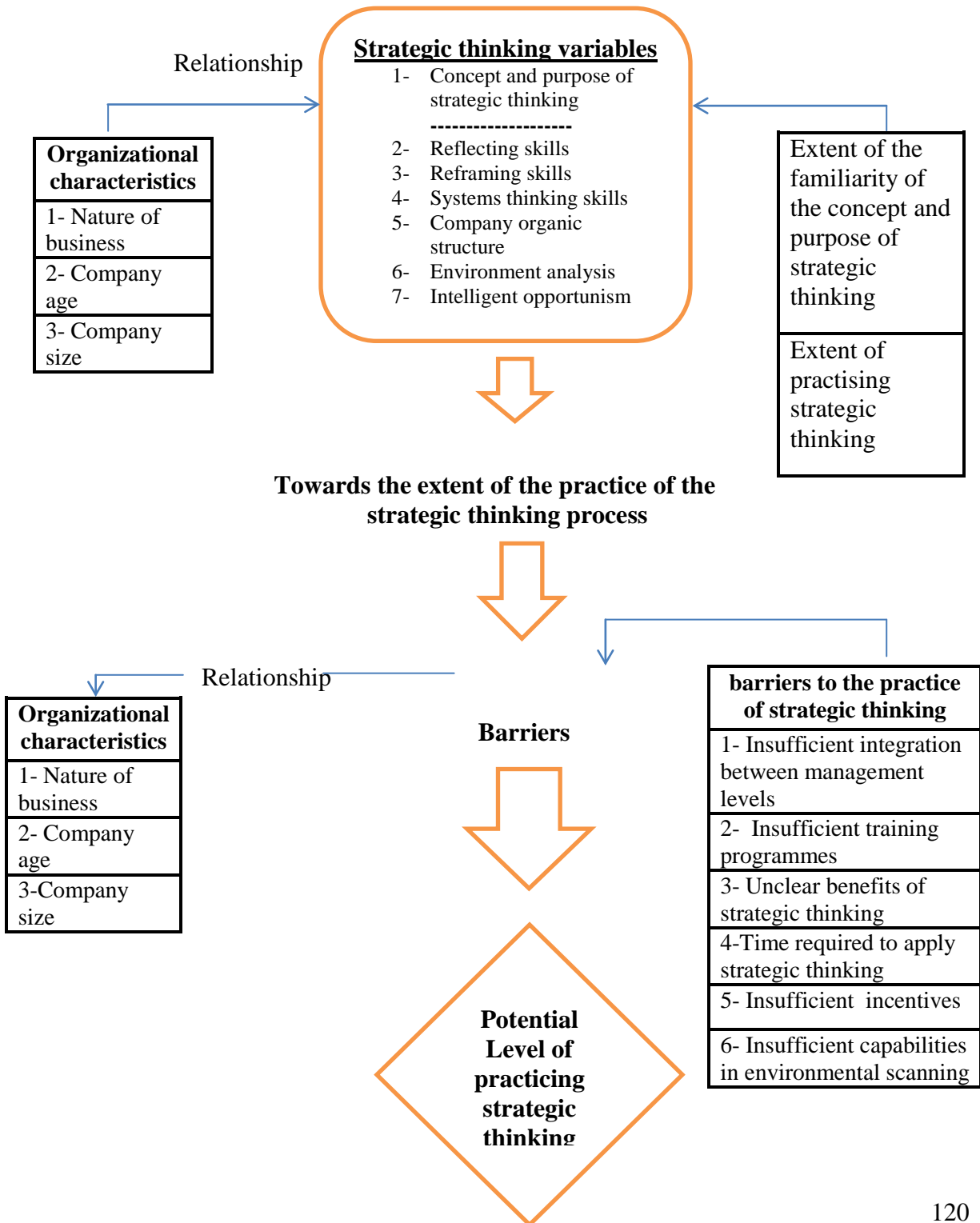
#### **4.2 Development of the research conceptual framework**

The conceptual framework which was applied in this research is clarified in figure 4.1. The framework has been developed based on the literature presented in chapters two and three. However, the literature identified that the strategic thinking processes can be examined through different variables (i.e. concept and purpose of strategic thinking, reflecting thinking skills, reframing thinking skills, systems thinking, company organic structure, environment analysis, intelligent opportunism) which can help to differentiate between successful companies that implement strategic thinking and less successful companies. Moreover, the framework explains that organizational characteristics (i.e. nature of business, company age, company size) may have a relationship with the extent of the practice of strategic thinking. Finally, there are a number of obstacles (implementation problems) that may prevent the practice of the strategic thinking processes (i.e. insufficient integration between management levels, insufficient training programmes, unclear benefits of strategic thinking, time required to apply strategic thinking, insufficient reward systems and incentives, insufficient capabilities in environmental scanning); furthermore, these obstacles may have relationships with



organizational characteristics that may impede the practice of strategic thinking processes.

**Figure 4. 1:** The research conceptual framework



### **4.3 The concept and purpose of strategic thinking in organizations**

In Chapter Three, the concept of strategic thinking and its importance and purpose were identified from different perspectives to examine the familiarity of the concept in publicly quoted Jordanian companies (see section 2.5 and section 2.7). The cornerstone is the role of strategic thinking implementation in achieving companies' goals and competitiveness and environmental factors, as explained in Chapter Two (see section 2.7) based on the knowledge of the concept and its importance and purpose as a starting point for the implementation of strategic thinking processes.

#### **4.3.1 The concept and purpose of strategic thinking**

Many concepts have been introduced regarding the term “strategic thinking”, but there is no agreement what it is (Tavakoli and Lawton, 2005; Heracleous, 2003; O’Shannassy, 2003; Bonn, 2001; Lawrence, 1999; Heracleous, 1998). Additionally, there is strong argument about what strategic thinking represents (Kustschera and Ryan, 2009; O’Shannassy, 2003; O’Shannassy, 1999). In this context, according to Liedtka (1998a and 1998b), strategic thinking is an individual ability depending on a person who thinks strategically, not organizations, and if we want to have a good understanding of the concept of strategic thinking we must know what the concept looks like in practice (see Section 3.4 for elements of strategic thinking). Also, in the same context, strategic thinking can be described as individual experience which takes place in an informal way without any decision or action necessarily following (Tavakoli and Lawton, 2005). Also, strategic thinking is defined as conceptual, directional, systems-oriented and opportunistic thinking (Goldman and Casey, 2010; Liedtka, 1998a; Mintzberg, 1978) which leads to the discovery of novel and imaginative organization strategies (Heracleous, 1998). Furthermore, to develop individual abilities to think strategically, we need an understanding of what happens throughout the process of strategic thinking (Goldman and Casey, 2010). In addition, to build a culture of strategic thinking in organizations, it requires knowledge of the concept of strategic thinking, about what it is and is not, how to distinguish it, how it is employed, and how it develops.

According to Bonn (2005 p. 337), strategic thinking is defined “as a way of solving strategic problems that combines a rational and convergent approach with creative and divergent thought process.” Consequently, strategic thinking is considered as action oriented and is concerned with identifying how individuals resolve ambiguity and make sense of a complex world. Strategic thinking also has been defined as “identifying different ways for people to attain their chosen objectives and determine what actions are needed to get them into the position they want to be in” (Stumpf, 1989, p. 31). Moreover, Regan-Cirincione et al. (1991) (see sections 2.5 and 2.7) described strategic thinking as the ability to integrate and utilize effectively the information that does exist. Additionally, Adair (2010) differentiated between strategic planning and stated that strategic thinking is a thinking process about the longer term and the more significant ends in any situation and the pathways that might or might not lead to them.

O’Regan et al. (2010) conducted a study in twenty UK family businesses. The study aimed to investigate the use of strategic thinking and what form it takes, and how family firm managers think strategically. In addition, the study sought to determine the differences in thinking between second-generation and third-generation family businesses. In general, the study found that only one second generation firm used strategic thinking in a proper way to identify the vision of the firm, while the third generation used strategic thinking and gave the term more care as a result to sustain their competitive advantage. Also the study found that different linguistic and cognitive types of strategic thinking were being applied in both second- and third-generation family firms. In terms of “strategy” and “strategic thinking”, the study found that second-generation businesses do not often use notions like “strategy” and “strategic thinking”, although the firm’s activities carry some of the qualities and characteristics of strategic thinking, while in third generation family businesses, these notions of “strategy” and “strategic thinking” are used on a more regular basis and many activities take the features and characteristics of strategic thinking. In term of strategic form, the study found that what was frequently associated with the needs of the family with regard to meeting their customer needs that considered as significant benefit for any individual concerned in the family firm scope. On the whole, O’Regan (2010) recommended that more studies must

be held in relation to the strategic thinking subject from different perspectives: future research could take into account how strategic thinking skills reside within individuals in family firms and how they could be optimized to sustain competitive advantages to contribute to the success and performance of their family firms. Business consultants and policy makers need to take into account different linguistic means when they apply strategic thinking to family firms.

Also, El-Farra et al. (2008) conducted a study to examine the level of the practice of strategic thinking in the Ministry of Health of the Gaza Strip. The study employed five elements which express the meaning of strategic thinking, those elements explained by O'Shannassy (2003); O'Shannassy (2001b); Liedtka (1998a): system perspective, intent focus, thinking in time, hypotheses driven and intelligent opportunism (see Section 2.6 elements of strategic thinking). The study revealed that there is lack in understanding the concept of strategic thinking as well as its elements which prevents the practice of strategic thinking in some Ministry of Health Institutions in the Gaza Strip.

The above discussion relates to the first objective of this research in exploring the level of familiarity of strategic thinking concept and purpose, which gives rise to the research question.

- To what extent are Jordanian publicly quoted companies familiar with the concept and purpose of strategic thinking?

Thus, the following hypothesis is:

The knowledge of Jordanian publicly quoted companies about the concept and purpose of strategic thinking is low.

There is a positive relationship between the extent of the knowledge of and familiarity with the concept and purpose of strategic thinking and the organizational characteristics in Jordanian publicly quoted companies (three sub-hypothesis).

This analysis will help to reveal whether or not the strategic thinking concept and its purpose are familiar in Jordanian publicly quoted companies in various different sectors (Industrial, service, insurance and banking) which can be considered as a starting point in the way of practising strategic thinking processes.

#### **4.4 Existing research regarding the practices of strategic thinking processes**

The literature (e.g. Karğın and Aktaş 2012; Pang and Pisapia, 2012; Monnavarian et al., 2011; Pisapia et al., 2011; Halis et al., 2010; Pang and Pisapia, 2010; Goldman, 2009; Pisapia et al., 2008; Clayton and Kimbrell, 2007; Gallen, 2006; Pisapia et al., 2005; Al-Zaydie and Dagher, 2005; Bonn, 2005; Bonn, 2001) has suggested different types of skills to measure the process of strategic thinking in organizations. For instance, a number of authors (Pang and Pisapia, 2012; Halis et al., 2010; Pang and Pisapia, 2010; Pisapia et al., 2008; Pisapia et al., 2005) have applied three thinking skills as cognitive processes. These skills include systems thinking, reframing thinking skills and reflecting thinking skills. These are all associated with the term “strategic thinking”, they complement each other, and are identified as a potential way of distinguishing between successful leaders and less successful leaders (Pisapia et al. 2005). Pang and Pisapia (2012) conducted their study on Hong Kong school leaders to identify effective school leaders. The aim of the study was to determine the extent of using strategic thinking skills to differentiate effective leaders in Hong Kong Schools. They highlighted three strategic thinking skills to measure the degree of their use among school leaders: systems thinking, reflecting, and reframing. They found that these schools used strategic thinking skills, but there were differences in the degree of using these skills, although none of them reached a degree of significant differences related to the position of leaders that they hold to use three strategic thinking skills. The study found that at the principals’ level the main concentration of the organization was to sustain a fit between the internal organizational operations and the external environment to establish organizational flexibility. Moreover, at this level, systems and reframing thinking were the most frequently used by principals to see the system in a holistic way and to switch across various perspectives, in relation to the vice principal level, the main concentration was on improving operations, conflict

management, creating alignment, keeping focused, communication, and relationships development. Also, at this level reframing was the strategic thinking skill most used. On the other hand, the study did not yield a clear result about strategic thinking skills in senior masters, but their focus was on job and tactical decisions instead of looking at things from different perspectives. Furthermore, the study found that strategic thinking skills were used to a greater degree in principals at secondary schools than principals of primary schools, while vice principals in primary schools used reflection and systems thinking to a greater degree than secondary schools. Regarding secondary schools, senior masters used reflection and reframing thinking skills to a greater degree than the primary school senior masters. On the whole, Pang and Pisapia (2012) formed three main impressions about the way that leaders process information and their effectiveness in schools in Hong Kong: (1) the strategic thinking skills able to differentiate between less and more effective leaders, (2) there is a cumulative impact of the use of three thinking skills (i.e. reflecting, reframing and systems thinking) that form the strategic thinking construct, and (3) the relationship between leaders' effectiveness and strategic thinking increased relating to the uses of the three skills of strategic thinking equally by school leaders. The study also investigated the effect of organizational and personal characteristics on these skills as well as the link between strategic thinking skills and school leader effectiveness. A summary of strategic thinking skills is listed in Table 4.1.

**Table 4.1:** A summary of the important skills of strategic thinking

Thinking skills	Description
<b>Systems thinking</b>	Systems thinking relates to the leader's ability to see systems holistically by understanding the properties, forces, patterns and interrelationships which shape the behaviour of the system, which therefore provides alternatives for action
<b>Reflection thinking</b>	Reflecting means the capability to weave logical and rational thinking, through the use of perceptions, experience and information, to make judgments on what has happened, and the creation of intuitive principles that direct future actions
<b>Reframing thinking</b>	Reframing relates to the leader's capability to switch attention across multiple perspectives, frames, mental models, and paradigms to generate new insights and alternatives for action

**Source:** Pang and Pisapia (2012, p. 346)

Ghorbani and Kiani (2012) highlighted five components of strategic thinking in their research model which was established by Liedtka (1998a) and Liedtka (1998b) based on Mintzberg's (1994) theories to study strategic thinking in the Mashhad Municipality in Iran to evaluate organizational readiness for change. The components include systematic attitudes or views, a focus on goals, conscious opportunity-seeking, a focus on time, and proceeding with a hypothesis.

El-Farra et al. (2012) identified six variables based on O'Shannassy (2003), O'Shannassy (2001b) and Liedtka (1998a), with some modifications to measure the level of strategic thinking at the Ministry of Health institutions in the Gaza Strip.

Yaghoubi et al., (2011) conducted a study of two large companies in Zahedan city, Iran, namely Oil Products Distributions Company and Cement Company. Yaghoubi et al., (2011) suggest two dimensions for studying strategic thinking processes; organizational intelligence and strategic thinking dimensions. The first dimension includes strategic vision, appetite for change, shared fate, alignment and congruence, knowledge deployment and performance pressure, while the second dimension includes thinking in time, intelligent opportunism, hypothesis-driven, intent-focused, mental models of information processing, environmental intelligence, systematic perspective and creativity.

Monnavarian et al. (2011) highlighted and used twelve factors by investigating 196 individuals in the Benetton Company located in Tehran (the capital city of Iran) to study the strategic thinking processes, using a double-sided survey with the same scale for both parts of the questionnaire. The first part was to examine the importance of strategic thinking factors and the second part to study the present situation of these factors. These factors included creativity and attention to the past, present and future, organic structure organization, environment analysis, conflict management, awareness of the situation, futuristic approach, intelligence, diversified mind pattern, accountability, organizational climate and coordination, systematic thinking, and process approach. The study found that these factors of strategic thinking are relevant and meaningful but their priority is not equal. In terms of involvement in the strategic thinking process, the study found that the

most important and used factors and their related items of strategic thinking are: environment analysis with intelligence, and creativity and attention to the past, present and future. Monnavarian et al. (2011) recommended that managers in the Benetton Company should take into account all factors of strategic thinking with more emphasis on particular factors, such as accountability, systematic thinking, and conflict management, in order to achieve an acceptable market share in Iran and to lead the company strategically.

In another attempt, Halis et al. (2010) conducted a study to investigate hotel managers' thoughts (four-star and five-star hotels) about the strategic thinking process and to suggest two main factors to study strategic thinking practices in the Hospitality industry in Istanbul, Turkey. The purpose of this study was to evaluate the effects of strategic thinking skills in four and five-star hotels and to investigate the influence of these skills on the process of strategic planning, as well as the influence of the strategic planning process on the level of customers' satisfaction. The study highlighted three cognitive processes (strategic thinking skills). These skills included systems thinking, reframing and reflecting, while the strategic planning process included the content of the strategic action plan, stakeholder analysis and participation, the existence of an action plan, and performance measurement.

Khalifa (2008) highlighted four drivers to strategic thinking and called them the strategy frame which helps strategists to govern and guide an organization's strategic perception and decisions to put them in the appropriate context of their organization's capacity as it relates to its environment. Strategic thinking can be driven by any one of these drivers based on a strategy framework. These drivers include exerting and leveraging organizational capabilities, exploiting current market opportunities, extending and renewing organizational capabilities, and exploring new market opportunities.

Bonn (2005) suggests three key elements which are relevant to studying strategic thinking processes. These elements are: systems thinking; creativity; and vision. Monnavarian et al. (2011) have used these elements to study strategic thinking processes



conducted in different branches of the Benetton Company located in Tehran. According to Liedtka (1998a), practising the process of strategic thinking needs to be addressed throughout organizations' management levels, and this will lead to a strong competitive advantage by their counterparts from organizations.

Acur and Englyst (2006) identified three phases in strategy formulation and conducted a study on Scotfirm Ltd., an international manufacturer originating and with headquarters in Scotland, with sixteen manufacturing and sales locations worldwide, and Danfirm, a multinational company with its origin and headquarters located in Denmark. These phases include strategic thinking, strategic planning, and embedding of strategy. In the strategic thinking phase the study determined nine main elements in the strategic thinking process. These elements include the development of awareness about the industry and its competitors, awareness of strengths and opportunities, awareness about main strategic problems which face the organization, understanding the strategic major priorities at a top management level, learning from past experience, and decision making through the use of effective and adaptive procedures.

Allio (2006) suggested ten ideas and called them top trusty ideas that are used as tools for the practice of strategic thinking processes which help organizations to reach sustainable profitability. These ideas include: long-range planning, strategic analysis, quality, portfolio theory, scenario planning, resource allocation models, corporate culture, leadership craft, metrics that matter, and strategic alliances.

In another attempt, Abraham (2005) suggested five approaches to the practice of strategic thinking processes to be applied and to stretch company thinking about different ways to compete, deliver customer value and to grow. These approaches include: being successfully different, emulating entrepreneurs, finding new opportunities, being future-oriented, and being collaborative.

Bonn (2005) emphasized that strategic thinking is an integrative process which consists of different factors. These factors includes: applying cognitive concepts, using creative ability to find different alternative solutions to resolve ambiguity and making sense of a

complex world, interactions between individuals in different units of the organization, understanding the organizational changes of the external and internal environment, individuals' ability to generate and present fresh ideas within an organization through interaction and communication as well as the exchange of ideas at different levels and units of the organization, the ability to see the situation of the organization within a holistic system, and the capability to develop shared beliefs about the goals of the organization to achieve them.

Gallimore (2004) suggested creativity training to practise strategic thinking to measure creative output which consists of three dimensions: novelty; resolution; and elaboration and synthesis. Novelty refers to the degree of newness of the strategy in terms of the number and extent of new processes, new products and concepts, and new technologies, whereas resolution refers to the extent to which the strategy may fit or meet the needs of the position. Finally, elaboration and synthesis relate to the degree to which the strategy joins elements into a refined, developed and coherent statement.

Bonn and Christodoulou (1996) conducted a study of the practice of strategic planning and strategic thinking to investigate the importance of using formal and informal planning in the 100 largest manufacturing companies between 1982 and 1993.

#### Approach to strategic thinking

The literature (e.g. Bonn, 2005; O'Shannassy, 2000) has emphasized that to study strategic thinking processes in organizations, three levels must be addressed. These levels include strategic thinking at the individual level, which is explained in terms of diversity in representational systems; second, strategic thinking at group level, which looks at heterogeneity and conflict; and finally, strategic thinking within an organizational context, which seeks to examine middle management involvement in the strategic thinking process through understanding the important characteristics which influence the organizational context (i.e. organizational culture, organizational structure, reward and compensation system).

Moreover, Bonn (2001) suggested that to understand strategic thinking in an organization requires addressing two different dual-level approaches that integrate the micro domains, which concentrate on individuals to investigate the characteristics of a strategic thinker, with the macro domains, which concentrate on an organizational context for influencing individual thinking and behaviour, where individuals operate as well as on the way they influence the climate, culture and structure of the organization. At the individual level, strategic thinking includes: understanding the organization and its environment holistically, creativity and vision that guide the future of the organization, while at the organizational level the organization requires the creation of structures, systems and processes that lead to the fostering of strategic dialogue between the organization top team, and to get advantage from the ingenuity and creativity of every employee in the organization.

#### Participation and involvement of organizations in the process of strategic thinking

According to the literature (e.g. Moon, 2012; Sharifi, 2012; Monnavarian et al., 2011; Goldman and Casey, 2010; Gilmore, 2007; Bonn, 2005; O'Shannassy, 2003; Bonn, 2001; O'Shannassy, 2000; Mason, 1986) strategic thinking must be included at all levels of a company for it to be effective. For instance, Goldman and Casey (2010) argued that the ability of organizations to think strategically includes the practices of both group and organizational levels, which relates to the way people work together and adapt to the organization's environment. Bonn (2005) argued that the process of practising strategic thinking does not occur in a single mind, but this process is affected by the social context in which the employee operates. On the other hand, Gilmore (2007) stated that many companies do not intend to involve all levels of employees in the process of practising strategic thinking. They mistakenly believe that regular employees are not capable of practising strategic thinking and only executives can visualize, interpret and scan the environment for information concerning the present and the future of their companies. Also, Gilmore argued that if you applied strategic thinking correctly, it will direct your company into the future in new innovative directions and give it long-term competitive advantage. Based on this, past studies investigate strategic thinking

processes at three different levels of management (e.g. Moon, 12; Monnavarian et al., 2011; Yaghoubi, et al., 2011; El-Farra et al., 2008; Abu Khadra and Rawabdeh, 2006; Mostafa, 2005). For instance, Monnavarian et al. (2011) examined 196 persons from different management levels (managers, supervisors, and educated employees) in different branches of the Benetton Company located in the capital city of Iran to examine the importance and purpose of strategic thinking factors in the company's present situation from the points of views of managers and employees from different management levels. Moreover, El-Farra et al (2008) examined the level of strategic thinking in three major divisions of the Ministry of Health Institutions (MoH) in the Gaza Strip. The study population included 593 employees, general managers, directors, deputy directors and heads of departments.

Karğın and Aktaş (2012) conducted a study to identify the use of strategic thinking skills (i.e. reflecting, reframing, systems thinking skills) of Certified Public Accountants and Certified Public Accountant trainees during the adoption of International Financial Reporting Standards as well as the new Turkish Commercial Code. According to the findings, the work position of participants of Certified Public Accountants or Certified Public Accountants' trainees is positively related to systems and reflecting thinking skills, while there is no significant relationship with reflective thinking skills. On the other hand, age, gender, work experience, and education have no significant relationship with the three skills mentioned (i.e. reflecting, reframing, systems thinking skills).

Goldman (2009) studied the practice of strategic thinking in the US Healthcare Industry. The aim of the study is to determine precise experiences which will lead to the development of individuals' abilities to think strategically. The study highlighted eight categories of work experience which will add value to develop healthcare managers' abilities to think strategically: the contribution of strategic planning to strategic thinking; having a job mentor; managing a considerable threat to organizational survival; helping as a chief executive officer of an organization; starting a main organizational project; monitoring indicators of performance; colleagues' relationships outside the organization; and being challenged by a key colleague. Goldman (2009)

recommended that to develop experiences and establish strategic thinking abilities in the Healthcare Industry, the organization's development plans should contain clear experiences to establish strategic thinking abilities; the characteristics of these experiences should be clear to provide good value to strategic thinking; and individuals must be motivated to read literature and attend conferences from outside the industry; the practices of strategic planning should be reviewed to determine if strategic thinking will be improved depending on these processes.

Goldman (2008) conducted a study on the health care industry in the USA to investigate the CEOs' ability to thinking strategically; the study used management background literature to understand strategic thinking by defining Strategic thinking, Cognitive science and Experimental learning theory. The purpose of the study was to have a better understanding of the development of an individual's ability to think strategically. This study highlighted one main question as follows: What is the structure of experiences that contributed to the development of expertise in strategic thinking? Moreover the study determined nine categories of experience which are considered as contributory, along with a set of important characteristics of every experience required to contribute to develop the participants' ability to thinking strategically. The experiences which contributed to strategic thinking were as follows: (1) general work experience, (2) becoming a CEO, (3) being mentored, (4) being challenged by a key colleague, (5) monitoring results/benchmarking (6) doing strategic planning, (7) spearheading a major growth initiative, (8) dealing with a threat to organizational survival, and (9) vicarious experiences.

#### **4.4.1 Strategic thinking elements at an individual and organizational level**

This study identified six elements of the extent of practice of strategic thinking in Jordanian shareholding companies. These skills include: systems thinking, reframing, reflection skills, organic structure, environmental analysis and intelligent opportunism. The first three skills allow individuals to think strategically and were isolated as potential differentiators between successful and less successful individuals (Pisapia,

2005). The first three skills are also known as mental models (Karğın and Aktaş, 2012; Pisapia et al., 2005; Senge, 1990) and are known as strategic consciousness (Halis, 2010). Furthermore, some researchers applied the first three skills in their studies (e.g. Pang and Pisapia, 2012; Pisapia et al., 2011; Karğın and Aktaş, 2012; Halis et al., 2010; Pisapia et al., 2009; Pisapia et al., 2008; Pisapia et al., 2005) while other researchers used other skills in their research. For instance, Yaghoubi (2011) used two skills, namely intelligent opportunism and systems thinking. Monnavarian et al. (2011) used organic structure organization, environment analysis, intelligent opportunism and systems thinking. Finally, El-Farra et al. (2008) used six variables; two of them are intelligent opportunism and systems thinking.

Bonn (2001) conducted a study building on a past longitudinal study to investigate the changes in strategic planning and strategic management in large Australian companies between 1982 and 1993 (Bonn and Christodoulou, 1996). The aim of Bonn (2001) was to create a structure to increase the process of strategic thinking in organizations which drawn on psychology and management thoughts to reform the problems associated with lack of using strategic thinking by majority of senior managers in large Australian companies. In general the study found that to solve the above problem Australian companies should address strategic thinking at two different but interrelated levels: the individual level and the organizational level, that would enable senior executive managers in organizations to create more strategies and develop strategic thinking processes in their companies, which will create a critical core competency to form the basis of sustaining competitive advantage that facilitates the process of communication and the process of organizational learning across the Strategic Business Units and functional domains. At the end of her study, Bonn (2001) recommended that further studies must be made in the field of strategic thinking in various regions and there is a need to develop tools that measure the strategic ability of senior managers.

### Systems thinking skills

The discussions in sections 2.6 and 2.10 suggest that systems thinking are the ability of employees to see the organization as a holistic system. In the same context, Kaufman

(1991, p.69) characterized systems thinking as “a switch from seeing the organization as a splintered conglomerate of disassociated parts (and employees) competing for resources, to seeing and dealing with the corporation as a holistic system that integrates each part in relationship to the whole”. According to Liedtka (1998a) this requires us to think strategically to see how various issues and problems are interdependent, how they affect and influence each other, and what influence one solution in a particular part would have on other parts. In other words, this needs to take into account understanding of both external and internal dynamics of the organization. This also contains an understanding that companies are embedded within large complex systems (industries, markets and nations) (Stacy, 1996). Moreover, Pisapia (2009) suggested various factors of systems thinking skills and called them good habits to practise the strategic thinking process. These habits are summarized in table 4.2.

**Table 4.2:** Systems thinking skills habits

- Try to extract rules and/or patterns from the information available.
- Find that in most cases external changes require internal changes.
- Search for the cause before taking action.
- Find that one thing indirectly leads to another.
- Try to understand how the facts presented in a problem are related to each other.
- Try to identify external forces which affect your work.
- Try to understand how the people in the situation are connected to each other.
- Investigate the actions being taken to correct the discrepancy between what is desired and what exists.
- Look for fundamental long-term corrective measures.
- Look for changes in the organization’s structure that lead to significant enduring improvement.
- Look at the ‘Big Picture’ in the information available before examining the details.
- Seek specific feedback on your organization’s performance.
- Think about how different parts of the organization influence the way things are done.

**Source:** Pisapia, (2009).

Finally, El-Farra et al. (2008) conducted a study at the Ministry of Health in the Gaza Strip to investigate the level of the practice of strategic thinking processes. The study examined six elements of strategic thinking. Five of those elements are explained by

Liedtka (1998a): system perspective, intent focus, thinking in time, hypotheses driven and intelligent opportunism (see section 2.6 elements of strategic thinking) and the study examined the internal and external environment introduced by O'Shannassy (2003 and 2001b). The study found a lack of application of systems thinking which enables managers and employees to have an holistic view in their hospitals as well as to explain their roles within the larger system, because managers concentrated on general objectives when making plans. Also employees in the MoH were not clear regarding the direction of their work during the next few years.

### Reframing skills

The discussion in sub-section 2.10.1 suggests that reframing is a cognitive skill which allows one to see and assess events and realities from different perceptions and it is considered as a method that leaders can apply to challenge mental models, develop various viewpoints, and substitute ways of viewing the world. Reframing skills relate to the capability of leaders to switch attention across multiple viewpoints, mental models, and frames, as well as paradigms in order to create new visions and choices for actions (Pang and Pisapia, 2012; Pisapia, 2009; Pisapia, et al., 2005) when trying to understand complicated and unfamiliar situations from new insights (Levesque, 2007). According to this, skill is directed to discover strategies and goals and may be applied to considering and offering new ideas through the process of collecting and organizing information (Pisapia, 2005). It includes categorizing and interpreting the meaning of new information, situations, and experience (Pisapia, et al., 2009).

Moreover, Pisapia (2009) suggested various factors for reframing thinking skills as good habits to practise the strategic thinking process. These habits are summarized in Table 4.3.



**Table 4. 3:** Reframing skills habits

Good Habits	<ul style="list-style-type: none"><li>• Seek different perceptions.</li><li>• Track trends by asking everyone if they notice changes in the organization's context.</li><li>• Ask those around you what they think is changing.</li><li>• Engage in discussions with those whose values differ from yours.</li><li>• Use different viewpoints to map out strategies.</li><li>• Recognize when information is being presented from only one perspective.</li><li>• Listen to everyone’s version of what happened before making a decision.</li><li>• Engage in discussions with those who have different beliefs or assumptions about a situation.</li></ul>
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**Source:** Pisapia, (2009).

### Reflecting skills

Reflective thinking is a cognitive skill which includes careful consideration of any practice or which promotes good understanding of events or cases then applies the newly gained knowledge to these events (Pisapia, 2009; Pisapia, et al., 2008; Pisapia, et al., 2005). As discussed in sub-section 2.10.3, reflective skills refer to an individual’s capability to combine rational and logical thinking together with experimental thinking through experience, information, and perception to produce judgment in relation to what has happened to create intuitive principles which direct what is happening in the present time to help in directing their future actions (Pang and Pisapia, 2012; Karğın and Aktaş, 2012; Pang and Pisapia, 2010; Pisapia, 2009; Pisapia et al., 2005). Moreover, Halis et al., (2010) and Pisapia (2005) argued that the ability of this skill is to apply knowledge to new situation and facts.

Finally, Pisapia (2009) suggested various elements of reflecting skills as good habits to practise the strategic thinking process. These habits are summarized in table 4.4.

**Table 4. 4:** Reflecting skills habits

<b>Good Habits</b>	<ul style="list-style-type: none"><li>• Review the outcomes of past decisions.</li><li>• Reconstruct an experience in your mind.</li><li>• Consider how you could have handled the situation after it was resolved.</li><li>• Accept that your assumptions could be wrong.</li><li>• Acknowledge the limitations of your own perspective.</li><li>• Ask “WHY” questions when trying to solve a problem.</li><li>• Set aside specific periods of time to think about why you succeeded or failed.</li><li>• Frame problems from different perspectives.</li><li>• Connect current problems to your own personal experience and previous successes.</li><li>• Stop and think about why you succeeded or failed.</li><li>• Reconstruct an experience in your mind to understand your feelings about it.</li><li>• Take into account the effects of decisions others have made in similar situations.</li></ul>
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**Source:** Pisapia, (2009).

Pisapia et al. (2008) conducted a comparative study to study the use of strategic thinking skills of 328 graduate students preparing for leadership positions at the Chinese University in Hong Kong, Florida Atlantic University in USA, China Executive leadership Academy in Shanghai, and the University of Malaya in Malaysia. The study highlighted three thinking skills to be investigated by introducing guides and definitions for each skill: system thinking, reframing, and reflecting. The aim of the study was to answer two questions; (1) Do the sample preparing for leadership in the UAS, Malaysia, Hong Kong, and Shanghai use the skills of strategic thinking differently? (2) How do variables such as location, age, and gender affect applying strategic thinking skills? The study found different levels of using reflecting, reframing and systems thinking skills between locations and that there were no significant combinations of location, gender and age.

Gallen (2006) conducted a study in large, medium, and small members of the spa industry (spa hotels, spa entertainments, and health spas) to investigate the use of different cognitive styles (sensing-thinking, intuitive-thinking, intuitive-feeling, sensing-feeling)

and different strategy types (analyser, defender, and prospector) by using a Myers-Briggs Type Indicator. The study recommended that more information is needed from different industries to study managers' cognitive styles and viable strategies and to understand managers' views and tendencies to definite kind of strategies. Finally, the study recommended studying how in the future a company's performance could be affected by the cognitive work of the top management team.

### Organic structure

The literature (e.g. Moon, 2012; Bonn, 2005; Mostafa, 2005; Saxby et al., 2002; Tata et al., 1999; Barker, 1993; Covin and Slevin, 1988; Quinn, 1985) differentiates between organic structures and mechanistic structures and emphasizes that organic structures are better in certain ways than mechanistic structures in various contexts. For instance, Bonn (2005) suggests that organic structures are more conducive to strategic thinking processes because they enhance communication and interaction as well as encouraging the generation and exchange of new ideas or opportunities. According to Saxby et al. (2002) an organic structure process is usually associated with "a flexible, free-flowing approach to management" and the employee's duties are considered contributory and commonly redefined through team management approaches. Moreover, in an organic structure the communication line is horizontal (Saxby et al., 2002; Tata et al., 1999) which leads to the free exchange of ideas and information across organization levels, departments, and functions as well as product lines and locations (Tata et al., 1999), and also leads to the encouragement of co-operation between employees to facilitate the spread of information and ideas within the organization (Barker, 1993). Finally, Bonn concluded that organic structures can easily foster the process of strategic thinking within an organization.

### Environmental analysis (external and internal)

The discussion in section 2.3 and sub-section 2.4.2 of Chapter Two suggests that strategic thinking can be implemented successfully only if organizations analyse their

environment because that is considered as the first step in the process of strategy development and guiding the organization decision making process.

The reason for the increasing importance of environmental scanning relates to rapid change in the industry environment, because through environment scanning organizations can determine the degree of change in the external environment and establish competitive advantage to control the internal environment, which will increase the abilities of top management to determine its objectives and strategic position (Alkalibi and Idrees, 2009). In another context, Saxby et al. (2002) argued that the environmental scanning process authorizes managers to become more aware of environmental issues that may significantly control the organization and its strategic direction.

The view of the concept of environmental scanning is to determine the external and internal elements as strategic factors which will identify the future of the organization through using SWOT analysis, and it also relates to the supervision or monitoring, evaluation, and distribution of information from external and internal environments to strategic managers within the organization (Alkalibi and Idrees, 2009; Wheelen and Hunger, 2008; Wheelen and Hunger, 2004; Wheelen and Hunger, 2002). On the other hand, Skipton (1985) indicates that SWOT analysis works as a link between strategic analysis and strategic planning.

In this research, studying environmental analysis will investigate various elements, including: company strengths and opportunities; recognition of internal and external analysis; ability to understand the dynamics of the external and internal environments; identifying company strategic issues; and understanding ambiguities and complexities for the interpretation and evaluation of events.

### Intelligent opportunism

The discussion in section 2.4 explained that the idea of intelligent opportunism represents the view of openness to new experience which authorizes a person to take the

benefits of alternative strategies and new ideas or opportunities which may emerge as more related to a dynamically changing market environment (Lawrence 1999; Liedtka, 1998a). In practising intelligent opportunism, it is essential that organizations take into account industriously the involvement of lower level management or of more creative employees who might be instrumental in embracing or determining alternative strategies that may be more suitable for the environment (Lawrence, 1999). In other words, the organization, whilst tracking a particular strategy, should not lose sight of an alternative strategy which may be more suitable for a changing environment (Liedtka, 1998a; Liedtka, 1998b). According to Mintzberg (1999), a healthy strategy system in any organization is one which permits a massive amount of communication and interaction around ideas and possibilities from all levels of management in all directions, back and forth, in and out. Moreover, Bonn (2005) argued that if an organization has the ability to address strategic thinking at all levels of management, it should be able to improve the process of decision-making which results in higher quality strategies as well as a greater competitive advantage. Finally, intelligent opportunism is examined by some researchers (e.g. Monnavariam et al., 2011; Yaghoubi et al., 2011; El-Fara et al., 2008; Bonn, 2001).

The above discussion relates to the key issues of this research in exploring the extent of the practice of strategic thinking, which gives rise to the research question:

- To what extent do Jordanian companies practise strategic thinking?

Thus, the following hypothesis will be:

The extent of practising strategic thinking in Jordanian publicly quoted companies is low.

The extent of the practice of strategic thinking processes will include discussion of cognitive processes elements of strategic thinking skills (reframing thinking skills, reflection thinking skills, systems thinking, organic structure of the company, environmental analysis, and intelligent opportunism).

## **4.5 Organizational characteristics**

The literature (e.g. Gallen, 2006; Segev, 1989) indicates that studying organizational characteristics has an important impact on the extent of strategic thinking practices as a use of cognitive styles. In other words, the literature indicates that in studying cognitive styles researchers should include different sized firms, (i.e. big, medium and small). Aldehayyat (2006) stated that Jordanian shareholding companies vary in their characteristics (nature of business, age and the size of companies) (see appendix 7 Jordan: General overview). In this research the practice of strategic thinking in Jordanian shareholding companies depends on addressing organizational characteristics (nature of business, size of company and age).

### **4.5.1 Nature of business**

O'Shannassy (2000) suggests that in studying strategic thinking processes in organizations, different business sectors must be included in the implementation process to study strategic thinking (e.g. banking industries, fund management, information technology and academic community). In the current research the researcher implemented strategic thinking in all Jordanian business sectors which were registered on the Amman stock exchange (industrial, service, insurance, and banking).

The suggestion here will be that the extent of the practice of strategic thinking in Jordanian shareholding companies depends on the nature of the business.

Thus, the hypothesis will be:

Hypothesis 1: there is a positive relationship between the extent of the practice of strategic thinking and the nature of the business (industrial, service, banking and insurance).

#### **4.5.2 Age of company**

The ability of a company to participate in the strategic thinking process may well depend on its age. Only one study has used age as a proxy to measure the relationship between strategic thinking involvement and the age of the company (Stonehouse and Pemberton, 2002). The study investigated the extent of practising strategic planning in SMEs companies in UK; the study found a positive relationship between strategic planning involvements and the age of the company. Also, the study found that there is a relationship between strategic thinking involvement and the age of the company in large size companies but there is less evidence of strategic thinking in medium and small size companies.

This measure was used also by a number of authors in the field of strategy as an indicator of a company age (e.g. Aldehayyat, 2011; Aldehayyat and Anchor, 2010; Aldehayyat and Anchor, 2008; Aldehayyat, 2006; Gibbons and O'Connor, 2005; Stonehouse and Pemberton, 2002; Slevin and Covin, 1997; Segev, 1989). Some studies found a positive relationship with the age of a company (e.g. Aldehayyat, et al, 2011; Gibbons and O'Connor, 2005) while others found no relationship with the age of the company (e.g. Aldehayyat, 2011; Aldehayyat and Anchor, 2010; Aldehayyat and Anchor, 2008)

The suggestion here will be that the extent of practising strategic thinking in Jordanian shareholding companies depends on the age of the company.

Thus, the hypothesis will be:

Hypothesis 2: the age of a company has a positive relationship with the extent of the practice of strategic thinking in Jordanian publicly quoted companies.

#### **4.5.3 Number of company employees (size of company)**

There are three variables usually used in the strategic thinking literature to measure company size; namely: total sales, total assets, and the number of the employees in the

company (Segev, 1989). The third variable was implemented by many researchers to measure the practice of strategic thinking (e.g. Pang and Pisapia 2012; Monnavarian et al., 2011; Halis et al., 2010; Pisapia et al., 2009; El-farra et al., 2008; Pisapia et al., 2005). For this research, however, only the total number of employees will be used to measure company size. The suggestion here will be that the practice of strategic thinking in Jordanian shareholding companies depends upon the size of the company (number of employees). Therefore, the following hypothesis is developed in the context of Jordan:

Hypothesis 3: the number of company employees has a positive relationship with the extent of the practice of strategic thinking in Jordanian publicly quoted companies.

The categorization which was adopted by the Amman Stock Exchange includes the industrial, service, insurance and banking sectors and will be used as a proxy for the nature of business in this research to measure the extent of the practice of strategic thinking in Jordanian shareholding companies.

#### **4.6 Barriers influencing the implementation of the strategic thinking process**

The literature (e.g. Moon 2012, Abu Kadra and Rawbedeh, 2006; Bonn, 2005; Abaris, 2005; Mostafa, 2005; McDermott and O'Dell, 2001; Bonn, 2001; Stumpf, 1989) indicates that there are different barriers and problems associated with the process of the practice of strategic thinking in organizations; the main driver in practising strategic thinking successfully could be if an organization's top management believes in the importance and purpose of its application. For instance, Bonn (2001 p. 68) stated that managers who believe in the importance and purpose of strategic thinking and creativity throughout the organization "ensure that strategic thinking becomes part of the organization's personality, the cornerstone of how it operates". Also, in the field of strategic thinking, the role of an organization's top management is considered very significant, necessary and the cornerstone of practising and motivating employees at all organizational levels to be involved in the practice of strategic thinking. These barriers may foster, prevent or impede the practice of strategic thinking in an organization (Moon, 2012; Mostafa, 2005; Bonn, 2005). Moreover, Bonn (2001) has suggested



different managerial practices that promote substantial motivation for the practice of strategic thinking in an organization, such as matching staff with assignments that make use of their expertise and abilities; establishing a climate where the whole company supports creative efforts; establishing supportive team work; motivating recognition by supervisors; and giving employees autonomy in how they approach their work.

Organizational culture has been found to be one of the greatest barriers for strategic thinking practice, while is also said to be one of the key factors for the success of the practice of strategic thinking (Moon 2012; Boon, 2005; Mostafa, 2005; McFadzean, 1998). The applied organizational culture requires the willingness of senior managers to share decision-making with middle and lower level employees in the strategy development process and for lower level employees to share responsibility for these decisions. This process has been linked to greater job satisfaction by company employees and leads to improved decision-making by senior managers (Bonn, 2005; Soonhee, 2002; Liedtka, 1998a). For instance, Liedtka (1998a) argued that top managers must develop, guide and facilitate the strategic thinking skills of company members by involving middle management in the strategy process which will enrich the repertoire of ideas and frameworks that senior managers have to work with, as well as help them to accommodate new knowledge and develop innovative strategies.

Organizational structure also was found to be one of the greatest barriers for strategic thinking practice and one of the key factors for the success of strategic thinking in an organization (Moon 2012; Bonn, 2005; Mostafa, 2005; Saxby et al., 2002). Moon (2012) and Bonn (2005) stated that the use of organic structure leads to facilitating the flow of communication, interaction between individuals, developing beliefs about values and goals at the company, motivating interaction and co-operation between members to spread the generation of new ideas within the company. Moon (2012) observed that successful structures may help top management to share decision making with middle managers and lower level employees and to accommodate new knowledge and develop innovative strategies by following a decentralization process in the organizational structure. Moreover, Moon (2012) suggested different external and internal variables that

influence the practice of strategic thinking and which may act as impediments or a way to foster the practice of strategic thinking in an organization. Internal variables include organizational structure and organizational culture as well as resources and competences at organizational level. This means that the extent of the practice of strategic thinking depends on the presence or absence of internal factors of the organization. External variables are market turbulence and technological turbulence.

The commitment of top management plays a role in the successful practice of strategic thinking. There is evidence that the lack of top management commitment is one of the main barriers to the practice of strategic thinking (Moon 2012; Boon, 2005; Mostafa, 2005; Greatz, 2002; Bonn, 2001). As argued by Moon (2012), the emphasis of top management on the practice of strategic thinking will encourage taking a holistic perspective, and this will foster strategic thinking within the company. For instance, Bonn (2005) and Mostafa (2005) considered low commitment to the organization and a lack of top management support, such as lack of communication, group conflicting goals, rules and regulations to follow, will prevent the practice of creative thinking in organizations. Moreover, the feeling of employees that they are not involved and not supported by top management will reduce their commitment to the company and will discourage them from being more creative thinkers.

Inadequate training programmes, incentives and reward systems are also considered challenges to the practice of strategic thinking in organizations (Moon 2012; Boon, 2005; Mostafa, 2005; Greatz, 2002; Bonn, 2001). For instance, Greatz (2002) and Bonn (2001) pointed out that successful practice which fosters strategic thinking in organizations comes through providing suitable training programmes, recognition or encouragement to those who hold new ideas; establishing a reward system that supports and encourages creative thinking across organizations; creating a supportive environment that allocates space, time and funds to good ideas; developing creative thinking and team work skills and modelling of desired behaviours by top level management at every level of the company to encourage employees' creativity; and ensuring that strategic thinking occurs widely across the company. Furthermore, Bonn (2005) stated that rewards systems which

include a high portion of long-term and qualitative performance measures in the pay mix of total compensation will foster the practice of strategic thinking within a company.

This research therefore examines different strategic thinking barriers which may act as barriers to prevent the practice of strategic thinking in organizations.

The discussion relates to the main issue of this research in exploring the problems and barriers associated with the implementation of strategic thinking which give rise to the following research question:

To what extent do Jordanian publicly quoted companies experience problems during the practice of strategic thinking?

Hypothesis 4: organizational characteristics make significant differences to the extent of practice of strategic thinking implementation problems in Jordanian publicly quoted companies?

**Hypothesis 4A:** there are significant differences in the extent of the experience of strategic thinking implementation problems across the four sectors of business.

**Hypothesis 4B:** there are significant differences in the extent of the experience of strategic thinking implementation problems across organizational age levels.

**Hypothesis 4C:** there are significant differences in the extent of the experience strategic thinking implementation problems across organizational size levels.

## **4.7 Summary**

In this chapter, the research conceptual model was developed and introduced based on a comprehensive review of the existing previous literature, and aspects related to the research objectives were clarified and discussed regarding the strategic thinking processes and in the field of strategy. Research hypotheses were deduced based on a review of previous literature. Moreover, the potential effects of organizational characteristics (nature of business, size of company, company age) on the process of practicing strategic thinking were outlined. The external and internal problems that influence the practice and implementation of strategic thinking were highlighted. In more details, the basis for examining different research aspects including the knowledge of and familiarity with the concept of strategic thinking; the practice of strategic thinking in Jordanian companies registered on the Amman Stock Exchange, focusing on the effects of organizational characteristics such as age, size of company, and nature of business on such knowledge; studying the extent of practice of strategic thinking in these companies, focusing on their organizational characteristics such as age, size of company and nature of business on such practice; and studying the barriers associated with the practice of strategic thinking and focusing on organizational characteristics such as age, size and nature of business. Further analysis of these aspects will be the focus of the empirical part of this research.

**CHAPTER FIVE**  
**DATA ANALYSIS AND RESULTS**

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## **Chapter Five**

### **Data Analysis and Results**

#### **5.1 Introduction**

The objectives of this research are to:

1. Examine the familiarity of the concept and purpose of strategic thinking in Jordanian publicly quoted companies.
2. Examine the practice of strategic thinking in Jordanian publicly quoted companies by investigating the following subjects:
  - The use of reflecting thinking skills
  - The use of reframing thinking skills
  - The use of systems thinking skills
  - The application of organic structure
  - The use of environmental analysis
  - The application of intelligent opportunism
3. Investigate the organizational characteristics (company age, company size and nature of business) in Jordanian publicly quoted companies which influence the extent of the practice of strategic thinking process.
4. Examine the barriers that are preventing the practice of the strategic thinking process in Jordanian publicly quoted companies.

This chapter aims to provide and analyse the data which were collected through the self-administered questionnaire and face to face semi-instructed interviews. The chapter is divided into six main sections. In sections 5.2 and 5.3, the characteristics of respondents and their companies were explained respectively. The check for non-response bias is explained in section 5.4. Section 5.5 is concerned with the first, second and third objectives examining the extent of familiarity of Jordanian publicly quoted companies

with the concept and purpose of strategic thinking, the extent of the practice of the strategic thinking process, the relationships between age, size and company sector with the familiarity of the concept and the purpose of strategic thinking as well as the extent of practising strategic thinking respectively. Section 5.6 is concerned with examining the fourth objective which is related to the factors which influence or prevent the practice of strategic thinking in Jordanian publicly quoted companies.

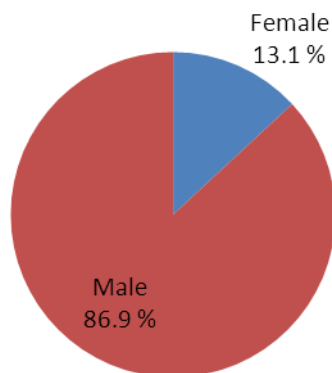
## 5.2 Characteristics of respondents

The aim of this section is to present a description of the characteristics of the respondents in the Jordanian publicly quoted companies surveyed which are classified into five groups as shown in Table 5.1. These characteristics include: gender, age, education level, management level and work experience.

### Gender and age of respondents

Table 5.1 and Figure 6.1 show that 86.9% (292 out of 336) respondents in the surveyed Jordanian companies were male, while 13.1% were female. 51.8% were above 40 years and 29.5% were between age 36 and 40 years, 11.3% were between 31 and 35 years, 6% between age of 26-30 years and finally 1.5% were less than 25 years old.

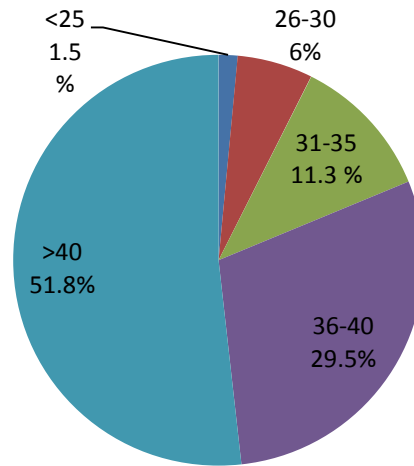
**Figure 5. 1:** Pie chart of respondents' gender.



**Source:** analysis of questionnaire data



**Figure 5. 2:** Pie chart of respondents' age.

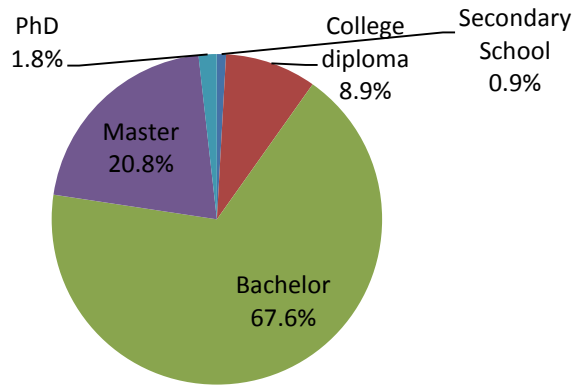


**Source:** analysis of questionnaire data

### **Education level of respondents**

Table 5.1 and Figure 5.3 explain the distribution of the respondents' sample according to their educational level. The results show that for 0.9% (3 out 336) respondents in the surveyed Jordanian publicly quoted companies that was secondary school, 8.9% of respondents hold a college diploma degree (30 out 336), 67.6% hold Bachelor degree (227 out 336), 20.8% hold a Master degree (70 out 336) and 1.8% of respondents hold a PhD degree (6 out 336). This result reflects that the majority of respondents hold a Bachelor degree followed by Master degree. Based on this data this gives the impression that the population of surveyed companies is well educated and Jordanian publicly quoted companies have an interest in educational qualifications for their employers.

**Figure 5. 3:** Pie chart of respondents' education level.

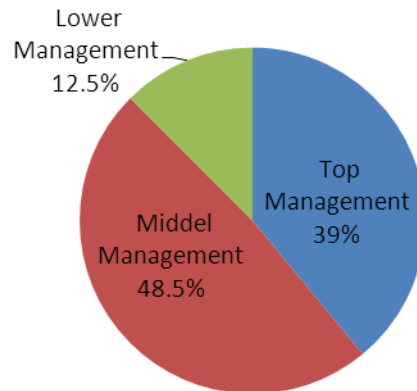


**Source:** analysis of questionnaire data

### **Management level of respondents**

According to the classification of the Jordanian publicly quoted companies investigated in terms of management level of respondents, table 5.1 and figure 5.4 show that 39.0% (131 out of 336) respondents are working at top management level, 48.5% were in middle level management (163 out of 336) and 12.5% of respondents are in lower level management (42 out of 336). From table 6.1 it can be seen that the percentage of middle management responses is higher than the top management level responses. The reasons behind this may relate to the small number of staff at the top management level, some of them are busy, or middle management has the ability to answer the questionnaire.

**Figure 5. 4:** Pie chart of respondents' management level.



**Source:** analysis of questionnaire data

**Table 5. 1:** Characteristics of respondents

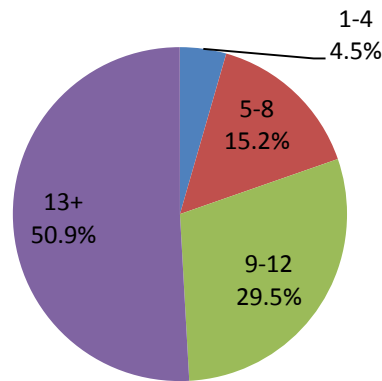
	Frequency	Per cent	Valid%	Cumulative%
<b>Gender</b>				
Female	44	13.1	13.1	13.1
Male	292	86.9	86.9	100.0
<b>Age</b>				
< 25	5	1.5	1.5	1.5
26-30	20	6.0	6.0	7.4
31-35	38	11.3	11.3	18.8
36-40	99	29.5	29.5	48.2
> 40	174	51.8	51.8	100.0
<b>Education level</b>				
Secondary School	3	0.9	0.9	0.9
College diploma	30	8.9	8.9	9.8
Bachelor degree	227	67.6	67.6	77.4
Master degree	70	20.8	20.8	98.2
PhD degree	6	1.8	1.8	100.0
<b>Management level</b>				
Top level	131	39.0	39.0	39.0
Middle level	163	48.5	48.5	87.5
Lower level	42	12.5	12.5	100.0
<b>Work experience</b>				
1-4	15	4.5	4.5	4.5
5-8	51	15.2	15.2	19.6
9-12	99	29.5	29.5	49.1
13+	171	50.9	50.9	100.0

**Source:** analysis of questionnaire data

## Work experience of the respondents

Table 5.1 and Figure 5.5 show that 4.5% (15 out of 336) respondents in the surveyed companies have less than 4 years' work experience while 15.2% (51 out 336) have between 5 and 8 years work experience, 29.5% of the respondents (99 out 336) had work experience between 9 and 12 years. Finally, 50.9% of respondents (171 out 336) have more than 13 years total experience in Jordanian publicly quoted companies

**Figure 5. 5:** Pie chart of respondents works experience.



**Source:** analysis of questionnaire data

## 5.3 The characteristics of respondents' companies

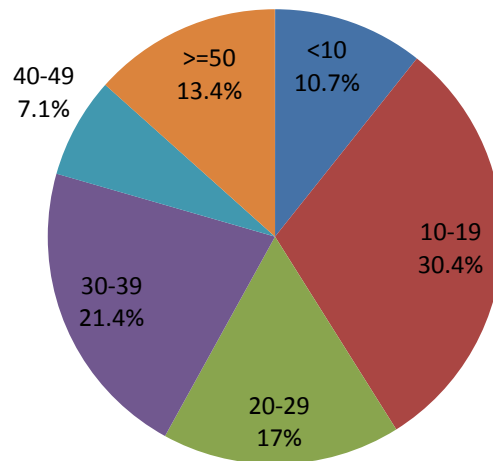
The aim of this section is to present brief information about the characteristics of Jordanian publically quoted respondent companies. These characteristics are presented in table 5.2, which covers four major features: respondents' company age, company sector, employee numbers (company size) and company ownership.

### The age of the participants' companies

Table 5.2 and Figure 5.6 show that 10.7% of the respondent companies are less than 10 years old totalling 12 companies out of the 112 respondents. Also, table 5.2 shows that 30.4% were aged between 10 and 19 years and these companies comprise 34 companies

from the whole respondents' population. 19 companies were aged between 20 and 29 years which comprises 17% of the whole respondents' population. Moreover, table 5.2 shows that 21.4% of the respondents' companies were aged between 30 and 39 years which represent 24 companies out of 112. Moreover, table 5.2 shows that 7.1% of surveyed companies aged between 40 and 49 forming 8 companies from the whole population. Finally, 13.4% of respondents' companies were 50 years or older and they are about 15 companies out of 112 companies responding.

**Figure 5. 6:** Pie chart of the age of participant companies.



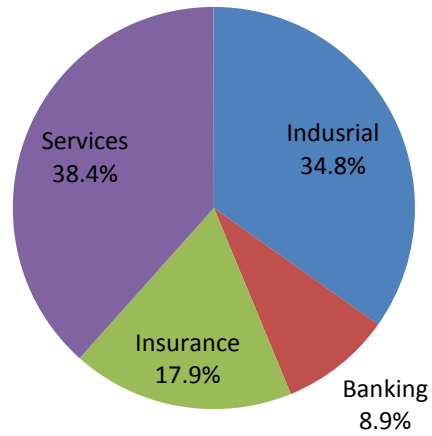
**Source:** analysis of questionnaire data

### **The sectors of respondents companies**

Table 5.2 and Figure 5.7 reflect that 34.8% of the investigated companies were from the industrial sector (39 industrial companies responded out of a total of 75 companies in the industrial sector). 8.9% of respondents companies were from the banking sector (10 banks responded out of 15 banks in whole population), 17.9% of respondents' companies were from the insurance sector and they comprise 20 respondents' insurance companies out of 27 insurance companies in the whole population and 38.4% of the surveyed

companies belong to the service sector (43 responded out of 129 companies), (see section 3.6.1.1, Chapter 3).

**Figure 5. 7:** Pie chart of respondents' industry sector.



**Source:** analysis of questionnaire data

**Table 5. 2:** The characteristics of respondents' companies

	Frequency	Per cent	Valid%	Cumulative%	No. of companies
<b>Company age</b>					
<10	36	10.7	10.7	10.7	12
10-19	102	30.4	30.4	41.1	34
20-29	57	17.0	17.0	58.0	19
30-39	72	21.4	21.4	79.5	24
40-49	24	7.1	7.1	86.6	8
>=50	45	13.4	13.4	100.0	15
<b>Total</b>	<b>112</b>				
<b>Company sector</b>					
Industrial	117	34.8	34.8	34.8	39
Banking	30	8.9	8.9	43.8	10
Insurance	60	17.9	17.9	61.6	20
Services	129	38.4	38.4	100.0	43
<b>Total</b>	<b>112</b>				
<b>Employee number</b>					
<100	129	38.4	38.4	38.4	43
100-499	105	31.3	31.3	69.6	35
500-999	45	13.4	13.4	83.0	15
1000-1999	33	9.8	9.8	92.9	11
2000-2999	6	1.8	1.8	94.6	2
3000-3999	6	1.8	1.8	96.4	2
>=4000	12	3.6	3.6	100.0	4
<b>Total</b>	<b>112</b>				
<b>Company ownership</b>					
Government or partner with private sector	51	15.2	15.2	15.2	17
Private companies	285	84.8	84.8	100.0	95
<b>Total</b>	<b>112</b>				

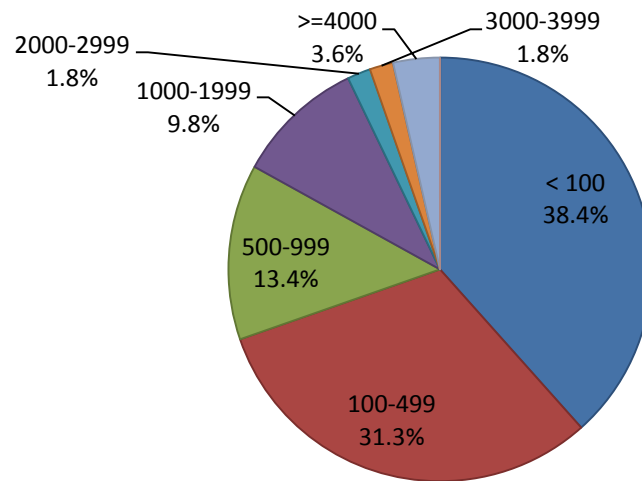
**Source:** analysis of questionnaire data

### Size of respondents' companies

Jordanian companies were also classified according to their size. Table 5.2 and figure 6.8 show the division of the investigated companies in terms of the number of company employees (i.e. size of company) see section 4.5.3Chapter 4. Five groups were classified in term of numbers of employees: companies that employed less than 100 employees

(38.4%); 100-499 employees (31.3%); 500-999 employees (13.4%); 1000-1999 employees (9.8%); 2000-2999 employees (1.8%); 3000-3999 employees (1.8%); and finally those which employed 4000 or more employees (3.6%).

**Figure 5. 8:** Pie chart of the size of respondent companies (number of employees).



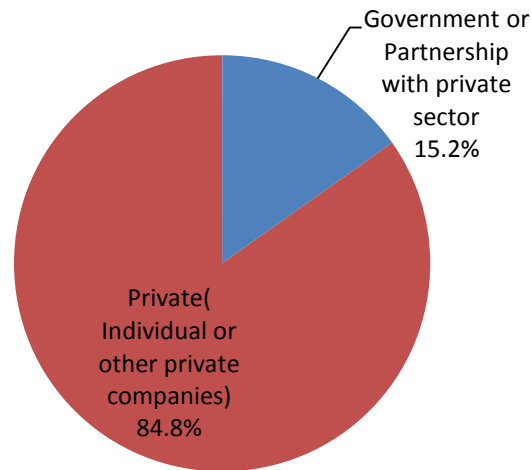
**Source:** analysis of questionnaire data

### **Company ownership**

Table 5.2 and Figure 5.9 also reflect the classification of the investigated Jordanian publicly quoted companies in term of ownership. The results showed that 15.2% of the investigated companies were government owned or in partnership with the private sector and 84.8% of companies were in private ownership.



**Figure 5. 9:** Pie chart of companies' ownership.



**Source:** analysis of questionnaire data

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

Since the response rate was 43.92%, as presented in Chapter 3, section 3.6.1.10, which means that there was a non-response rate of 56.08%, testing for non-response bias became an important issue in order to ensure that the sample has the potential of generalizability to represent the entire research population (Neuman, 2007). Usually tests are conducted to identify whether or not there are statistically significant differences between those who responded and those who did not with regard to organizational characteristics (Wallace and Mellor, 1988). In this research, identifying statistical differences between respondents and non-respondents was performed with regard to organizational characteristics (i.e. age, size of company and nature of business) to find out whether or not any significant difference exists between early respondents and late respondents by comparing organizational characteristics with early and late response (Hall, 2010; Homburg et al., 2012) as shown in table 5.3. Thus, the test of non-response bias is assessed by using chi-square test, which was used with nominal data to identify whether the characteristics are common across the research population (Gray, 2004).

A Chi-square test was conducted in order to find out whether or not there was a significant difference between early respondents and the late questionnaire respondents with respect to organizational characteristics. The results of the Chi-square tests indicate no statistically significant difference between early respondents and late respondents regarding the nature of the business, company age and company size (Chi-square value= 4.799,  $P= .187$ ), (Chi-square value= 7.092,  $P= .214$ ), (Chi-square value= 10.483,  $P= .106$ ) respectively. Based on this result, the characteristics of respondents are similar to the characteristics of the population, which means that the sample has the generalizability to represent the research population. The results of the chi-square tests are presented in table 5.3.

**Table 5. 3:** Chi-Square Test results: comparing organizational characteristics in early and late response

Variables	Pearson Chi-Square	df	Asymp Sig. (2-tailed)	Details
Company sector	4.799	3	0.187	0 cells (.0%) have expected count less than 5
Company age	7.092	5	0.214	0 cells (.0%) have expected count less than 5.
Company size	10.483	6	0.106	4 cells (28.6%) have expected count less than 5.

**Source:** analysis of questionnaire data

Moreover, another test was used to find out whether or not there was a non-response bias by using follow-up phone calls to discuss the reasons for not responding or completing the questionnaire (i.e. company policy, no time available). These reasons were discussed in section 3.6.1.10 of Chapter 3. The result of this test indicates no significant bias between the respondent and the population. These reasons are consistent with the reasons for non-response bias in other studies (e.g. Hall, 2010; Chenhall, 2005).

## 5.5 The practice of strategic thinking

The analysis of the findings concerning the practice of strategic thinking in Jordanian publicly quoted companies will be accomplished by examining the sum of dimensions

such as: the concept and the purpose of strategic thinking; reflecting thinking skills; reframing thinking skills; systems thinking; organic structure; environment analysis; intelligent opportunism; and barriers which impede the practice of the strategic thinking.

### 5.5.1 The concept and purpose of strategic thinking

#### 5.5.1.1 Questionnaire findings

The concept and the purpose of strategic thinking were measured by a group of questions (seven questions) which was established on a five point Likert scale to assess the first objective regarding the concept and purpose of strategic thinking. In this section the participants were asked on a scale range from 1=strongly disagree to 5=strongly agree, (1=strongly disagree, 2=disagree, 3=neutral, 4=agree, 5=strongly agree) to indicate how familiar they are with the concept and purpose of strategic thinking through agreeing or disagreeing with the given items. Based on this, the average of the above scale is 3=  $((1+2+3+4+5)/5)$ . Consequently a mean of 3 and more signifies a level of agreement with the items whereas a mean of less than 3 signifies disagreement with the items.

**Table 5. 4:** The concept and purpose of strategic thinking (n=336 questionnaire) n

The concept and purpose of strategic thinking	Rank	Mean*	STD. Dev.
1. Strategic thinking helps to strengthen or gain competitive advantage.	1	4.38	0.616
2. Strategic thinking draws a picture of the company by connecting the past, present, and future.	2	4.21	0.669
3. Strategic thinking is included in strategy formulation and implementation, and in determining the strategic performance of the company.	4	4.15	0.664
4. Strategic thinking provides the capability for building the competence needed to control future markets.	5	4.06	0.689
5. Strategic thinking is a synthesizing process resulting in good employment intuition and creativity in the formulation of the strategic direction of the company.	6	3.89	0.739
6. Strategic thinking is connected with solving strategic issues and conceptualizing the future of the company.	3	4.16	0.657
7. The process of strategic thinking must take place at all levels of the company.	7	3.61	1.087
<b>Concept and Purpose of Strategic Thinking</b>		4.0651	.48135

\* The mean is an average of scale 1= strongly disagree to 5= strongly agree

‘n’: represent the number of respondents (i.e. surveyed) from which data was gathered

Source: analysis of questionnaire data

Table 5.4 reflects the extent and the degree of respondents' familiarity with the concept and purpose of strategic thinking in Jordanian publicly quoted companies. In this section all means for the statements concerning the concepts and purpose of strategic thinking are more than three which indicates that there are high contributions to the familiarity with the concept and purpose of strategic thinking. The average mean for all statements is 4.065 which reflect the overall agreement of respondents regarding familiarity with the concept and purpose of strategic thinking. This result means that the respondents in Jordanian publicly quoted companies have good familiarity with the concept and the purpose of strategic thinking. Moreover, the mean for all statements is above 3. This result may reflect their experiences and the educational level which they gained from courses and workshops which have been held during their work time or the respondents have past knowledge about the content of the subject of strategic thinking during their study in colleges and universities.

For further analysis, Spearman's correlation was applied to evaluate the relationships between the age and size of company and the contribution to the familiarity of the concept and the purpose of strategic thinking. This test was implemented for each of the seven statements regarding familiarity with the concept and the purpose of strategic thinking. Table 5.5 reveals that the correlation between the age and the contribution of strategic thinking concept and purpose is positive and significant with five familiar concepts and purposes; namely "strategic thinking helps to strengthen or gain competitive advantage" (correlation .129 at .01 level), "strategic thinking draws a picture of the company by connecting the past, present, and future" (correlation .138 at .01 level), "strategic thinking is a synthesizing process resulting in good employment intuition and creativity in the formulation of the strategic direction of the company" (correlation .123 at .05 level), "strategic thinking is connected with solving strategic issues and conceptualizing the future of the company" (correlation .140 at .01 level) and "the process of strategic thinking must take place at all levels of the company" (correlation .140 at .01 level). On the other hand, table 6.5 indicates that no significant relationship exists between employee number (size of the company) and the contribution to the

knowledge of and familiarity with the concept and the purpose of strategic thinking in Jordanian publicly quoted companies.

**Table 5. 5:** The correlation between age of company and concept and purpose of strategic thinking and employee number (size of company) and concept and purpose of strategic thinking (n=336 questionnaire)

The concept and purpose of strategic thinking	Age of company	Employee number (size of the company)
Concept and purpose 1: correlation coefficient Sig. (1-tailed)	.129** .009	.048 .193
Concept and purpose 2: correlation coefficient Sig. (1-tailed)	.138** .006	-.026 .317
Concept and purpose 3: correlation coefficient Sig. (1-tailed)	.047 .195	.016 .384
Concept and purpose 4: correlation coefficient Sig. (1-tailed)	.064 .122	.002 .483
Concept and purpose 5: correlation coefficient Sig. (1-tailed)	.123* .012	.002 .484
Concept and purpose 6: correlation coefficient Sig. (1-tailed)	.140** .005	-.031 .284
Concept and purpose 7: correlation coefficient Sig. (1-tailed)	.140** .005	.041 .228

\*\* . Correlation is significant at the 0.01 level (1-tailed).

\* . Correlation is significant at the 0.05 level (1-tailed).

**Source:** analysis of questionnaire data

A Kruskal-Wallis Test was applied to determine any significant differences between the four sectors (industrial, banking, insurance and services) regarding the most significant concept and purpose of strategic thinking. The result as shown in table 5.6 indicates some significant statistical differences in some statements of the concepts and purpose of strategic thinking and no statistical differences in others by conducting the test for each of the seven items. The result of this test indicates that no statistical differences exist between the four sectors in the familiarity of the concept and the purpose of strategic thinking in four statements; namely “strategic thinking helps to strengthen or gain competitive advantage” ( $P=0.537$ ), followed by “strategic thinking draws a picture of the company by connecting the past, present, and future” ( $P=0.051$ ), then “strategic thinking provides capability for building the competence needed to control future markets” ( $P=0.492$ ), finally “strategic thinking is a synthesizing process resulting in good employment intuition and creativity in the formulation of the strategic direction of the company” ( $p=0.167$ ).

**Table 5. 6:** Kruskal-Wallis test concept & purpose strategic thinking by business sector

<b>Concept &amp; purpose strategic thinking</b>	<b>Chi-Square</b>	<b>df</b>	<b>Asymp. Sig.</b>
1. Strategic thinking helps to strengthen or gain competitive advantage.	2.175	3	0.537
2. Strategic thinking draws a picture of the company by connecting the past, present, and future.	7.779	3	0.051
3. Strategic thinking is included in strategy formulation and implementation, and in determining the strategic performance of the company.	33.255	3	0.000
4. Strategic thinking provides capability for building the competence needed to control future markets.	2.406	3	0.492
5. Strategic thinking is a synthesizing process resulting in good employment intuition and creativity in the formulation of the strategic direction of the company.	5.071	3	0.167
6. Strategic thinking is connected with solving strategic issues and conceptualizing the future of the company.	15.710	3	0.001
7. The process of strategic thinking must take place at all levels of the company.	9.922	3	0.019

**Source:** analysis of questionnaire data

On the other hand, Table 5.6 indicates that the result of this test indicates that there are statistical differences between the four sectors in the familiarity of the concept and the purpose of strategic thinking regarding three items, namely, “strategic thinking is included in strategy formulation and implementation, and in determining the strategic performance of the company” ( $P= 0.000$ ), followed by “strategic thinking is connected with solving strategic issues and conceptualizing the future of the company” ( $P=0.001$ ), then “the process of strategic thinking must take place at all levels of the company” ( $P=0.019$ ) but, according to these findings we cannot generalize the result to all sectors unless we identify in which sector exactly we have statistical differences, so the researcher conducted Kruskal-Wallis tests again to test two sectors each time. Table 5.7 indicates that there are statistical differences between sectors and this difference is identified between the industrial and insurance sectors ( $P=0.039$ ), between industrial and services ( $P=0.000$ ), between banking and insurance ( $P=0.003$ ), and between insurance and services ( $P=0.000$ ). These findings reflect that strategic thinking is included in strategy formulation and implementation, and in determining the strategic performance of the company. This item is recognized and it is familiar to the industrial more than the insurance sector, industrial more than services sector, banking rather than insurance

sector and insurance rather than the services sector because the P-Values are less than 5%.

**Table 5. 7:** Kruskal-Wallis test grouping variables: business sectors

Concept & purpose of strategic thinking	Between sectors	Chi-Square	df	Asymp. Sig.
3. Strategic thinking is included in strategy formulation and implementation, and in determining the strategic performance of the company.	Industrial & Banking	3.521	1	0.061
	Industrial & Insurance	4.259	1	0.039
	Industrial & services	16.500	1	0.000
	Banking & Insurance	8.565	1	0.003
	Banking & services	0.359	1	0.549
	Insurance & services	26.317	1	0.000
6. Strategic thinking is connected with solving strategic issues and conceptualizing the future of the company.	Industrial & Banking	8.524	1	0.004
	Industrial & Insurance	0.003	1	0.959
	Industrial & services	8.636	1	0.003
	Banking & Insurance	6.371	1	0.012
	Banking & services	2.265	1	0.132
	Insurance & services	5.285	1	0.022
7. The process of strategic thinking must take place at all levels of the company.	Industrial & Banking	1.244	1	0.265
	Industrial & Insurance	5.631	1	0.018
	Industrial & services	0.118	1	0.731
	Banking & Insurance	7.888	1	0.005
	Banking & services	0.712	1	0.399
	Insurance & services	6.757	1	0.009

**Source:** analysis of questionnaire data

Table 5.7 indicates that there are statistical differences between sectors and these differences are identified between the industrial and banking sectors ( $P=0.004$ ), between industrial and services sector ( $P=0.003$ ), between banking and insurance sector ( $P=0.012$ ) and between banking and services sector ( $P=0.022$ ) which reflect that strategic thinking is connected with solving strategic issues and conceptualizing the future of the company. This item regarding the concept and purpose of strategic thinking is recognized and known by the industrial sector more than the banking sector, industrial more than the services sector, banking more than the insurance sector and insurance more than the services sector because the P- values are less than 5%. Finally, table 5.7 indicates that there are three statistical differences between the sectors and these differences are identified between the industrial and insurance sector ( $P=0.018$ ), between the banking and insurance sector ( $P=0.005$ ) and between the insurance and services sectors ( $P=0.005$ ). This result reflects the fact that the process of strategic thinking must take place at all levels of the company, which mean that this statement is recognized and

known by the industrial more than the insurance sector, banking more than insurance sector and insurance more than services sector.

### 5.5.1.2 Interview finding

The main aim of conducting the semi-structured interviews in this research was to explain and confirm the seven concepts and the purposes of strategic thinking that have been mentioned before in the questionnaire findings. This interview was carried out by asking eight managers in eight different companies from different sectors to explain the most familiar concepts and purposes of strategic thinking to them. The results of conducting semi-structured interviews reveal that all concepts and purposes of strategic thinking were discussed by all eight participants, but not one of the eight participants mentioned seven statements of the concepts and purposes of strategic thinking together as shown in table 5.8. For instance, some of the participants mentioned six out of seven, some three out of seven.

**Table 5. 8:** The interview results of the familiarity of the concepts and purposes of strategic thinking statements

Concepts and purposes of strategic thinking statements	Valid No.= 8 interviews	
	No. mentioned	%
Strategic thinking helps to strengthen or gain competitive advantage.	6	75.00
Strategic thinking draws a picture of the company by connecting the past, present, and future.	4	50.00
Strategic thinking is included in strategy formulation and implementation, and in determining the strategic performance of the company.	5	62.50
Strategic thinking provides capability for building the competence needed to control future markets.	4	50.00
Strategic thinking is a synthesizing process resulting in good employment intuition and creativity in the formulation of the strategic direction of the company.	3	37.50
Strategic thinking is connected with solving strategic issues and conceptualizing the future of the company.	5	62.50
The process of strategic thinking must take place at all levels of the company.	4	50.00

**Source:** Analysis of data obtained from interviews



Through the semi-structured interviews it is shown that the participants vary in relation to different statements; for instance, “strategic thinking helps to strengthen or gain competitive advantage” heads the list, reported by six interviewees; “strategic thinking is included in strategy formulation and implementation and in determining the strategic performance of the company” as well as “strategic thinking is connected with solving strategic issues and conceptualizing the future of the company” were each reported by 5 interviewees; “strategic thinking draws a picture of the company by connecting the past, present, and future”, and “strategic thinking provides the capability for building the competence needed to control future markets” as well as “the process of strategic thinking must take place at all levels of the company” were each reported by four interviewees as the most frequent statements in participants’ answers.

## **5.5.2 The use of reflecting thinking skills**

### **5.5.2.1 Questionnaire findings**

The use of reflecting skills was measured by a group of ten questions which were established on a five point Likert scale (1= Almost never, 2= Once in a while, 3= Sometimes, 4= Often and 5= frequently). Table 6.9 presents the results of measuring the use of reflecting skills factor in Jordanian publicly quoted companies. In this factor all respondents were asked to state to what extent they frequently use or almost never use the skills in the given statements concerning the level of using reflecting thinking skills in their companies. Table 5.9 explains that the mean for all scales was over three which reflects closely the high level of use for each activity.

**Table 5. 9:** The use of reflecting thinking skills (n=336 questionnaire)

Reflecting thinking skills	Rank	Mean*	STD. Dev.
1. Ask “WHY” questions in order to develop an understanding of problems.	7	3.63	.875
2. Try to apply your experience and knowledge to any problem.	1	4.07	.808
3. Accept that your preferable beliefs could be mistaken when thinking about what you have done and decisions you have made in solving a problem.	9	3.48	.828
4. Acknowledge the limitations of your own perspective.	10	3.41	.845
5. Discover how you could have handled a situation better when thinking about a past decision you have made.	4	3.80	.773
6. Try to find a common goal that will allow two parties within your organization who are competing or in conflict both to succeed.	8	3.49	1.051
7. Try to take into account the use of information gathered by experience, in the solution of the problem.	2	4.00	.759
8. Seek coaching by colleagues or professionals when thinking about past decisions that you have made.	5	3.76	.913
9. Try to take into account the real life implications when thinking about decisions and actions you have made.	3	3.88	.756
10. Seek to frame problems from different perspectives.	6	3.68	.832
Reflective thinking skills		3.7193	.45569

\* The mean is an average of scale 1= almost never to 5= frequently

**Source:** analysis of questionnaire data

This finding is consistent with the findings of Sun-Keung and Pisapia (2010) conducted with three types of school leaders in Hong Kong to determine the extent of the use of strategic thinking skills. This finding is consistent also with the findings of Pisapia et al. (2008) conducted with school leaders in Hong Kong, Malaysia, Shanghai and the United States by comparing the means of the extent of using reflective thinking skills in different locations. Furthermore, this finding is consistent with the findings of Pisapia et al. (2005) who proposed that applying reflecting thinking skills gives the managers the ability to see why some choices work and other do not.

For more analysis Spearman’s correlation was applied to evaluate the relationships between the age of company and the use of reflecting thinking skills, and between employees’ number (i.e. size of company) and the use of reflecting thinking skills. This test was implemented for each of the ten statements regarding the use of strategic thinking reflecting skills. Table 5.10 (see appendix 6) reveals that the correlation between

the age and the contribution of reflecting thinking skills is positive except for one being negative and significant with eight reflecting thinking skills, namely, “try to apply your experience and knowledge to any problem” (correlation .133 at .01 level), “try to find a common goal that will allow two parties within your organization who are competing or in conflict both to succeed” (correlation .182 at .01 level), “try to take into account the use of information gathered by experience, in the solution of the problem” (correlation .227 at .01 level), “seek coaching by colleagues or professionals when thinking about past decisions that you have made” (correlation .168 at .01 level), “try to take into account the real life implications when thinking about decisions and actions you have made” (correlation .227 at .01 level), “seek to frame problems from different perspectives” (correlation .168 at .01 level), “acknowledge the limitations of your own perspective” (correlation -.100 at .05 level) and “discover how you could have handled a situation better when thinking about a past decision you have made” (correlation .105 at .05 level). Table 5.10 (see appendix 6) indicates that the correlation between the employees number and the contribution to the use of reflecting thinking skills are two negative correlations and three positive and significant correlations; namely, “accept that your preferable beliefs could be mistaken when thinking about what you have done and decisions you have made in solving a problem” (correlation -.133 at .05 level), “try to find a common goal that will allow two parties within your organization who are competing or in conflict both to succeed” (correlation .109 at .05 level), “try to take into account the use of information gathered by experience in the solution of the problem” (correlation .117 at .05 level), “try to take into account the real life implications when thinking about decisions and actions you have made” (correlation .112 at .05 level) and “acknowledge the limitations of your own perspective” (correlation -.130 at .01 level).

A Kruskal-Wallis Test was applied to determine whether or not any significant differences exist between the four sectors (industrial, banking, insurance and services) regarding the most significant reflecting thinking skills. The results as shown in Table 5.11 indicate some significant statistical differences in some reflecting thinking skills and no statistical differences in others by conducting the test for each of the ten items. The result of this test indicates that there were no statistical differences between the four

sectors in the usage of reflecting skills, namely, “accept that your preferable beliefs could be mistaken when thinking about what you have done and decisions you have made in solving a problem” ( $P=0.187$ ), followed by “acknowledge the limitations of your own perspective” ( $P=0.199$ ), and “try to take into account the use of information gathered by experience, in the solution of the problem” ( $P=0.796$ ).

Table 5.11 (see appendix 6) shows that the result of this test indicates there are statistical differences between the four sectors in the usage of reflecting skills namely, “ask “WHY” questions in order to develop an understanding of problems” ( $P = 0.016$ ), followed by “try to apply your experience and knowledge to any problem” ( $P=0.002$ ), then “discover how you could have handled a situation better when thinking about a past decision you have made” ( $P=0.010$ ), and “try to find a common goal that will allow two parties within your organization who are competing or in conflict both to succeed” ( $P=0.002$ ), “seek coaching by colleagues or professionals when thinking about past decisions that you have made” ( $P=0.012$ ), “try to take into account the real life implications when thinking about decisions and actions you have made” ( $P=0.033$ ), finally, “seek to frame problems from different perspectives” ( $P=0.020$ ). According to these findings we cannot generalize the result to all sectors, so the researcher conducted Kruskal-Wallis again to test two sectors each time.

Table 5.12 (see appendix 6) indicates that there are statistical differences and this difference is identified between industrial and insurance sectors ( $P=0.007$ ) and between insurance and services ( $P=0.008$ ). These findings reflect that these sectors ask “WHY” questions in order to develop an understanding of problems which mean that this item is used more by industrial more than insurance and is used more by insurance than service sector because the P-Values are less than 5%.

Table 5.12 (see appendix 6) indicates that there are statistical differences and these differences are identified between the industrial and insurance sector ( $P=0.005$ ) and between the insurance and services sector ( $P=0.001$ ), which reflects that the activity “try to apply your experience and knowledge to any problem” is used more by industrial than insurance and is used more by industrial than services sector.

In Table 5.12 (see appendix 6) the test results indicate that there are significant statistical differences between the four sectors in term of “discovering how you could have handled a situation better when thinking about a past decision you have made” between industrial and insurance ( $P=0.018$ ) and between insurance and services ( $P=0.001$ ).

In Table 5.12 (see appendix 6) also the test results indicate that there are significant statistical differences between the four sectors in terms of “trying to find a common goal that will allow two parties within an organization who are competing or in conflict both to succeed”. These differences are identified between industrial and services sector ( $P=0.001$ ), between banking and services sector ( $P=0.008$ ) and insurance and services ( $P=0.018$ ).

In terms of “seek coaching by colleagues or professionals when thinking about past decisions that you have made”, Table 5.12 (see appendix 6) reflects that there are significant statistical differences between industrial and services ( $P= 0.001$ ) and no significant statistical difference between the other sectors.

In terms of “try to take into account the real life implications when thinking about decisions and actions you have made”, Table 5.12 (see appendix 6) shows that there are significant statistical differences between industrial and banking ( $P= 0.010$ ) and the banking and services sector ( $P=0.004$ ).

Finally, table 5.12 (see appendix 6) indicates that there are statistical differences between the four sectors and these differences are identified between the industrial and insurance sector ( $P=0.009$ ) and between the insurance and services sector ( $P=0.002$ ), which reflect

that the item “seeks to frame problems from different perspectives” is used more by industrial than insurance and used more by insurance than services sector.

### **5.5.2.2 Interview findings**

The findings of the questionnaire showed that strategic thinking (i.e. reflecting thinking skills) were applied by Jordanian publicly quoted companies from different sectors. However, respondents were asked to explain the most important activities they apply or focus on in practising strategic thinking (i.e. reflecting thinking skills) to solve problems and anticipating the future of their companies and whether or not further focus was given to particular activities which may be related to their nature of business. The interview findings showed that companies from different sectors focus on particular activities to practise strategic thinking (i.e. reflecting thinking skills) with respect to the nature of business. An interview with a participant from a leading industrial company reflected that reflecting thinking skills were always practised in his company. However, in practising reframing thinking skills the participant stated that:

*“...our focus is in reviewing past decisions to deal with new situations which will improve our future actions as well as knowing why some decisions succeed and some fail by applying our knowledge, information and experience together... Also, we are less focused in solving problems depending on one point of view”.*

For instance, another interviewee, a participant from a Jordanian industrial company stated that:

Reflective thinking is practised in our company and mainly:

*“...Our focus is seeking help from colleagues regarding past decisions which handled by one person then we apply knowledge, experience, perceptions and analysis in any taken action to improve our decisions and to secure our competitive advantages in the*

market.... Also, we are less focused on one perspective in solving problems”.

### 5.5.3 The use of reframing thinking skills

#### 5.5.3.1 Questionnaire findings

Table 5.13 presents the level of using reframing thinking skills through introducing nine statements on a five point Likert scale. All respondents in Jordanian publicly quoted companies were asked to state to what extent they frequently use or almost never use with the given statements concerning the extent of practising the process of reframing thinking skills.

The overall mean of this section regarding to the extent of using reframing thinking skills is 3.292, which shows that reframing thinking skills are experienced and implemented in Jordanian publicly quoted companies.

**Table 5. 10:** The use of reframing thinking skills (n=336 questionnaire)

<b>The usage of reframing thinking skills</b>	<b>Rank</b>	<b>Mean*</b>	<b>STD. Dev.</b>
1. Try to create and evaluate a larger number of possible solutions and perceptions when the problem is more complex.	1	4.08	.716
2. Engage in discussions with those who hold a different world view and different beliefs.	4	3.82	.881
3. Examine a situation by using various viewpoints.	3	3.86	.812
4. Try to use different points of views to map out different strategies needed to the resolution of a problem.	2	3.90	.762
5. Try to create a pre-conceived solution to a situation before it has been clearly defined or understood.	8	2.58	1.125
6. Track trends by asking everyone around you what is changing or what is new.	6	3.13	1.040
7. Examine a problem by using one viewpoint.	9	2.18	.999
8. Try to avoid engagement in discussions with critics especially with those who make different assumptions about a situation.	7	2.68	.970
9. Try first to examine the problem at its face value and create plans to solve it before seeking other people’s opinions.	5	3.4	.990
Overall mean Reframing thinking skills		3.2923	.44154

\* The mean is an average of scale 1= almost never to 5= frequently

Source: analysis of questionnaire data

This finding are consistent with the findings of Pisapia et al. (2005) who proposed that applying reframing thinking skills provides the advantage of multiple perspectives for a company.

For further analysis, Spearman's correlation was applied to evaluate the relationship between the age of the company and the contribution to reframing thinking skills, and the size of the company (number of company employees) and the contribution to reframing thinking skills. This test was applied for each of the nine statements.

The findings of the correlation (table 5.14) (see appendix 6) indicate that there are statistically significant relationships with four positive and one negative relationship between the age of the company and the contribution to the use of reframing thinking skills, namely, "engage in discussions with those who hold a different world view and different beliefs" (correlation .183 at .01 level); "examine a situation by using various viewpoints" (correlation .107 at .05 level); "try to use different points of views to map out different strategies needed to the resolution of a problem" (correlation .111 at .05 level); "try to avoid engagement in discussions with critics especially with those who make different assumptions about a situation" (correlation .095 at level .05 level); and "try first to examine the problem at its face value and create plans to solve it before seeking other people's opinions" (correlation -.090 at .05 level). On other hand, table 6.14 (see appendix 6) reflects that there is no statistical relationship between the number of employees (i.e. size of the company) and the contribution to the use of reframing thinking skills in any statement.

For more analysis the Kruskal-Wallis test was implemented to determine if any significant statistical differences existed between the four sectors regarding the most use of reframing thinking skills. The results are presented in table 5.15 (see appendix 6) and reveal that no significant statistical differences exist between the four sectors in some of items in terms of the use of reframing thinking skills, namely, "try to create and evaluate a larger number of possible solutions and perceptions when the problem is more complex" ( $P=0.353$ ), followed by "engage in discussions with those who hold a different



world view and different beliefs” ( $P=0.394$ ) and “examine a situation by using various viewpoints” ( $P=0.645$ ), then “try to use different points of views to map out different strategies needed to the resolution of a problem” ( $P=0.292$ ) and “track trends by asking everyone around you what is changing or what is new” ( $P=0.451$ ); finally, “try to avoid engagement in discussions with critics especially with those who make different assumptions about a situation” ( $P=0.518$ ).

The results of this test, which are presented in table 5.15, (see appendix 6) reveal that there are significant statistical differences between the four sectors; namely, “try to create a pre-conceived solution to a situation before it has been clearly defined or understood” ( $P=0.002$ ), followed by “examine a problem by using one viewpoint” ( $P=0.000$ ) and “try first to examine the problem at its face value and create plans to solve it before seeking other people’s opinions” ( $P=0.006$ ). These findings cannot be generalized to all sectors; so the researcher conducted Kruskal-Wallis test again to test two sectors each time to see if any significant differences exist between the four sectors (industrial, banking, insurance, services) regarding the use of reframing thinking skills in Jordanian publicly quoted companies.

The results of this test as presented in table 5.16 (see appendix 6) indicate statistical differences between the four sectors for three activities regarding the use of reframing thinking skills. These differences were identified between the industrial and services sector ( $P= 0.001$ ), between the banking and services sector ( $P= 0.024$ ), and between the insurance and services sector ( $P= 0.006$ ). These results reflect that the activity “try to create a pre-conceived solution to a situation before it has been defined clearly or understood” is applied by industrial sector more than services sector, banking more than the services sector and insurance more than the services sector because the P-values are less than 5%. In terms of “examine a problem by using one viewpoint”, Table 5.16 (see appendix 6) reveals that there are statistical differences identified between the industrial and insurance sector ( $P= 0.031$ ), between the industrial and services sector ( $P= 0.000$ ) and between the banking and services sector ( $P= 0.030$ ). Finally, the test reveals that there are statistical differences between the industrial and services sector ( $P= 0.001$ ),

between the banking services sector ( $P= 0.030$ ) and between the insurance and services ( $P= 0.034$ ) which reflect that “try first to examine the problem at its face value and create plans to solve it before seeking other people’s opinions” is used by the services sector more than the industrial, banking and insurance sectors.

### **5.5.3.2 Interview findings**

The findings of the questionnaire analysis show that Jordanian publicly quoted companies are concerned with the use of reframing thinking skills. The findings of interviews supported the questionnaire findings and showed that there were different skills (i.e. reframing thinking skills) which have been used in these companies across the four sectors. These companies used different viewpoints to solve difficult problems and sharing discussions with professionals who have different assumptions and beliefs about solving complex problems. Moreover, these companies are more concerned to understand the problem clearly before creating a pre-conceived solution to it.

For instance, an interview with a financial manager from a leading industrial company in Jordan mentioned that:

*“... A number of activities have been used in our company to solve a problem or a situation. These include: continuous listening to everyone about what happen in the situation before carrying out any decision; understanding complicated and unfamiliar problems from different insights and developing alternatives and ideas concerning the needs of our company”.*

Also, another interview with a participant from a services company in Jordan stated that:

*“...The company focuses on obtaining information and ideas from different sources externally and internally to solve a problem or a situation. These include: obtaining information from different management levels within our company; seeking information from*

*everyone around us about what changes has happened in the company context; use of different perspectives to map out strategies by engaging in discussion with those who have different beliefs”.*

#### 5.5.4 The use of systems thinking skills

##### 5.5.4.1 Questionnaire findings

Table 5.17 presents the result of the measuring systems thinking skills factor. The researcher measured this factor with twelve questions by using a five point Likert scale. In this section the respondents were asked to declare to what degree they almost never use or frequently use systems thinking skills with the given items concerning the level of practising systems thinking skills in their companies.

**Table 5. 11:** The use of systems thinking skills (n=336 questionnaire)

The usage of systems thinking skills	Rank	Mean*	STD. Dev.
1. Find that in most cases external environmental changes require changes internally.	7	3.82	.820
2. Try to think about how different parts of the company influence the way things are done.	9	3.78	.849
3. Concentrate on developing the capabilities of company employees to solve the problem when they are faced with a problem needing resolution.	6	3.83	.874
4. Search to identify external environmental forces that affect your work.	3	4.00	.797
5. Try to focus on breaking the problem into parts before defining it.	2	4.01	.827
6. Search for specific feedback on your company’s performance.	5	3.87	.787
7. Seek to extract patterns or rules from the available information.	10	3.67	.800
8. Focus on searching for the cause before taking any action.	1	4.14	.802
9. Seek to understand how the individuals in the situation are interrelated to each other.	11	3.54	.917
10. Try to take into account how change occurs through the influence of environmental factors.	8	3.81	.773
11. Look to take action before seeking the cause.	12	2.62	1.219
12. Try to look for changes in the company’s structure that lead to significant enduring improvements.	4	3.92	.680
Systems thinking skills		3.7500	.44772

\* The mean is an average of scale 1= almost never to 5= frequently

Source: analysis of questionnaire data

Table 5.17 indicates that the overall mean of the statements regarding the extent of using systems thinking skills is 3.75, which shows that systems thinking are implemented in Jordanian publicly quoted companies.

For further analysis Spearman's correlation was applied to evaluate the relationships between the age of the company and the contribution to systems thinking skills, and the size of the company (employee's number of the company) and the contribution to systems thinking skills. The test was conducted for each of the twelve skills.

Table 5.18 (see appendix 6) indicates that the relationships between the age of the company and the use of systems thinking skills is statistically significant with five skills, namely, "try to think about how different parts of the company influence the way things are done" (correlation .138 at .01 level), "search for specific feedback on your company's performance" (correlation .116 at .05 level), "seek to extract patterns or rules from the available information" (correlation .116 at .01 level), "seek to understand how the individuals in the situation are interrelated to each other" (correlation .110 at .05 level), "look to take action before seeking the cause" (correlation .094 at .05 level).

On the other hand, table 5.18 (see appendix 6) shows that the employee number (size of the company) and the contribution to systems thinking skills is statistically significant only for two activities; namely, "search for specific feedback on your company's performance" (correlation .156 at .01 level), and "seek to extract patterns or rules from the available information" (correlation .147 at .01 level).

A Kruskal-Wallis test was conducted to determine any if significant differences exist between the four sectors (industrial, banking, insurance, services) regarding the use of systems thinking skills activities. The test was conducted for each of the twelve activities. The results of this test, as presented in Table 5.19, (see appendix 6) indicate that no significant statistical differences existed between the four sectors for three activities regarding the use of systems thinking skills, namely, "find that in most cases external environmental changes require changes internally" ( $P= 0.776$ ), "concentrate on developing the capabilities of company employees to solve a problem needing resolution

( $P= 0.063$ ) and “try to take into account how change occurs through the influence of environmental factors” ( $P= 0.459$ ).

On the other hand, the findings of this test indicate that there are significant statistical differences between the four sectors in nine activities regarding the use of systems thinking skills, namely, “try to think about how different parts of the company influence the way things are done” ( $P= 0.000$ ), “search to identify external environmental forces that affect your work” ( $P= 0.000$ ), “try to focus on breaking the problem into parts before defining it” ( $P= 0.000$ ), “search for specific feedback on your company’s performance” ( $P= 0.035$ ), “seek to extract patterns or rules from the available information” ( $P= 0.000$ ), “focus on searching for the cause before taking any action” ( $P= 0.000$ ), “seek to understand how the individuals in the situation are interrelated to each other” ( $P= 0.000$ ), “look to take action before seeking the cause” ( $P= 0.000$ ) and finally “try to take into account how change occurs through the influence of environmental factors” ( $P= 0.029$ ).

A Kruskal-Wallis test was applied to test two sectors each time to determine the statistical differences which exist between the four sectors as presented in Table 5.20 (see appendix 6) because the results in Table 5.19 cannot be generalized as to which sector uses systems thinking skills more.

The result of this test as presented in Table 5.20 (see appendix 6) indicate that there are significant differences and differences are identified between the industrial and banking sectors ( $P= 0.000$ ), between the banking and insurance sector ( $P= 0.001$ ), and between the banking and services sectors ( $P= 0.000$ ). These findings reflect that the activity “try to think about how different parts of the company influence the way things are done” is used by the industrial more than the banking sector, banking more than insurance and banking more than services because the results of the P-Values are less than 5%.

In terms of “search to identify external environmental forces that affect your work”, the findings in table 5.20 (see appendix 6) indicate that statistical differences exist between

the four sectors, between the industrial and insurance sector ( $P= 0.001$ ) and between the industrial and services sector ( $P= 0.000$ ).

In terms of “try to focus on breaking the problem into parts before defining it” the findings in table 5.20 reveal that there are significant statistical differences between the industrial and insurance sectors ( $P= 0.040$ ) and between the industrial and services sectors ( $P= 0.000$ ).

In table 5.20 (see appendix 6) the results of the Kruskal-Wallis test indicate that there are significant statistical differences between the four sectors regarding “search for specific feedback on companies’ performance”. These differences existed between the banking and service sectors ( $P= 0.024$ ) and the insurance and services sector ( $P= 0.025$ ).

In table 5.20 (see appendix 6) the results of the Kruskal-Wallis test indicate that there are statistical differences between sectors in terms of “seek to extract patterns or rules from the available information”. These differences exist between the industrial and banking sectors ( $P= 0.011$ ), between the industrial and insurance sectors ( $P= 0.018$ ), between the industrial and services sectors ( $P= 0.025$ ), between the banking and services sectors ( $P= 0.000$ ) and between the insurance and services sectors ( $P= 0.000$ ).

In term of “focus on searching for the cause before taking any action”, table 5.20 (see appendix 6) indicates that there are significant statistical differences between the industrial and banking sector ( $P= 0.009$ ), between the industrial and insurance sectors ( $P= 0.001$ ) and between the industrial and services sectors ( $P= 0.000$ ).

Moreover, table 5.20 (see appendix 6) reveals that there are statistical differences between the industrial and services sectors ( $P= 0.000$ ), between the banking and services sectors ( $P= 0.000$ ), and between the insurance and services sectors ( $P= 0.000$ ) which reflect that the activity “seek to understand how the individuals in the situation are interrelated to each other” is used by industrial more than services sector, used by the

banking sector more than the services sector and by the insurance sector more than the services sector because the P-Values are less than 5%.

Table 5.20 (see appendix 6) also shows that there are statistical differences between the industrial and banking sectors ( $P= 0.010$ ), between the industrial and insurance sectors ( $P= 0.000$ ) and between the industrial and services sectors ( $P= 0.000$ ) which reflect that the activity “look to take action before seeking the cause” is used by the industrial more than the banking sector, the insurance and services sectors because the P-Values are less than 5%.

Table 5.20 (see appendix 6) also indicates that there are statistical differences between the four sectors and these differences are identified between the industrial and banking sectors ( $P= 0.024$ ) and between the banking and services sectors ( $P= 0.007$ ) which mean that the activity “try to look for changes in the company’s structure that lead to significant enduring improvements” in the industrial rather than the banking sector and banking more than the services sector.

#### **5.5.4.2 Interview findings**

Interviews were undertaken with eight participant companies from different sectors to clarify and confirm the twelve statements of practising systems thinking skills that have been mentioned in the questionnaire findings (see table 5.21). These interviews were carried out by asking eight managers in eight different sectors to explain the most important statements used in practising systems thinking skills. The result of the interviews shows that all systems thinking skills statements were discussed by all eight participants.

Through the semi-structured interviews it is shown that the participants from different sectors indicated that the use of systems thinking skills varied in different statements; for instance, “search to identify external environmental forces that affect your work” as reported in table 5.21, heading the list, was reported by eight interviewees (100%),

followed by “focus on searching for the cause before taking any action” and “try to take into account how change occurs through the influence of environmental factors”; each was reported by seven interviewees (87.50%).

**Table 5. 12:** Use of systems thinking skills by number of mentions

Use of systems thinking skills	Valid No.= 8 interviews	
	No. mentioned	%
1. Find that in most cases external environmental changes require changes internally.	5	62.50
2. Try to think about how different parts of the company influence the way things are done.	4	50.00
3. Concentrate on developing the capabilities of company employees to solve the problem when they are faced with a problem needing resolution.	6	75.00
4. Search to identify external environmental forces that affect your work.	8	100.00
5. Try to focus on breaking the problem into parts before defining it.	4	50.00
6. Search for specific feedback on your company’s performance.	6	75.00
7. Seek to extract patterns or rules from the available information.	4	50.00
8. Focus on searching for the cause before taking any action.	7	87.50
9. Seek to understand how the individuals in the situation are interrelated to each other.	3	37.50
10. Try to take into account how change occurs through the influence of environmental factors.	7	87.50
11. Look to take action before seeking the cause.	1	12.50
12. Try to look for changes in the company’s structure that lead to significant enduring improvements.	6	75.00

**Source:** Analysis of data obtained from interviews

## 5.5.5 The organic structure of the company

### 5.5.5.1 Questionnaire findings

In this section the respondents were asked, on a scale ranked from 1= almost never use to 5= frequently use, to indicate how significant they saw the contribution of an organic structure in their companies as a contributory factor to the practice of strategic thinking. Table 5.22 indicates that the means for all items of organic structure factor are more than three, which reflect the high contribution of each item to the strategic thinking process.



**Table 5. 13:** The organic structure of the company (n=336 questionnaire)

<b>The organic structure of the company</b>	<b>Rank</b>	<b>Mean*</b>	<b>STD. Dev.</b>
1. Motivates interaction and communication and encourages the generation of new ideas.	1	3.96	.882
2. Develops a collaborative structure which leads to the free exchange of ideas within the company.	4	3.83	.832
3. Fosters ongoing strategic dialogue among top team through applying a reward and compensation system.	6	3.67	.889
4. Taking into account the operational and strategic necessities for designing a convenient structure for the company.	4	3.83	.852
5. Develop shared beliefs and visions about the goals and values of the company with others.	5	3.68	.883
6. Consider the development of a structure supportive of change and development for the company.	2	3.94	.887
7. The ability to make rapid responses to the company's competitors and to changes in market demand.	3	3.87	.913
Organic structure		3.8236	.58650

\* The mean is an average of scale 1= almost never use to 5= frequently use

Source: analysis of questionnaire data

Spearman's correlation was applied to evaluate the relationship between the age of the company and the application of organic structure and employee numbers (size of the company) and application of an organic structure. This test was applied for each of the seven statements regarding the application of an organic structure of the company. Table 5.23 (see appendix 6) reveals that the relationship between age of company and the application of an organic structure is statistically significant for four activities; namely, "motivates interaction and communication and encourages the generation of new ideas" (correlation .219 at .01 level), "develops a collaborative structure which leads to the free exchange of ideas within the company" (correlation .194 at .01 level), "fosters ongoing strategic dialogue among the top team through applying a reward and compensation system" (correlation .125 at .05 level) and "develop shared beliefs and visions about the goals and values of the company with others" (correlation .100 at .05 level).

Table 5.23 (see appendix 6) reveals that there is no statistically significant relationship between employee numbers (i.e. size of the company) and the application of an organic structure in the company.

The Kruskal-Wallis test was applied to examine whether or not there were significant statistical differences between the four sectors regarding the use of organic structure activities in Jordanian publicly quoted companies. The test was performed for each of seven activities. The results, as presented in Table 5.24, (see appendix 6) indicate that no significant differences exist between the four sectors in term of the use of organic structure activities except for three activities; namely “motivates interaction and communication and encourages the generation of new ideas” (Chi-Square= 14.29,  $P= 0.003$ ), “develops a collaborative structure which leads to the free exchange of ideas within the company” (Chi-Square= 11.151,  $P= 0.011$ ) and “fosters ongoing strategic dialogue among the top team through applying a reward and compensation system” (Chi-Square= 8.290,  $P= 0.040$ ).

These findings cannot be generalized to all sectors, so the Mann-Whitney test was used to determine if any significant differences exist between the four sectors regarding the application of organic structure activities and to examine the sectors which apply the activity of an organic structure.

Table 5.25 shows that significant statistical differences exist between the industrial and banking sectors ( $P= .001$ ), between the banking and insurance sectors ( $P= .014$ ) and between the banking and services sectors ( $P= .005$ ). These findings reveal that these sectors apply the activity of organic structure (i.e. motivates interaction and communication and encourages the generation of new ideas) because the P-values for the three activities are less than 5%.

The results of a Mann-Whitney test (Table 5.25) show that there are statistically significant differences between the four sectors in term of developing a collaborative structure which leads to the free exchange of ideas within the company. These differences exist between the industrial and banking sectors ( $P= .024$ ), between the industrial and insurance sectors ( $P= .018$ ) and between the industrial and services sectors ( $P= .005$ ). These findings reflect the fact that the industrial sector implements this activity more than the other sectors (i.e. banking, insurance, services).

Table 5.25 shows that only one statistically significant difference exists between the banking and insurance sectors ( $P= .009$ ) which means that the activity “fosters ongoing strategic dialogue among top teams through applying a reward and compensation system” is used more by the banking than the services sector.

**Table 5. 14:** Mann-Whitney test company sector vs. implementation of organic structure

Organic structure	Between groups	Mann-Whitney U	Wilcoxon W	Z	Asymp. Sig. (2-tailed)
1. Motivates interaction and communication and encourages the generation of new ideas.	Industrial & Banking	1070.000	7973.000	-3.468	.001
	Industrial & Insurance	3105.500	10008.500	-1.323	.186
	Industrial & services	6549.500	13452.500	-1.915	.056
	Banking & Insurance	632.500	2462.500	-2.451	.014
	Banking & services	1347.000	9732.000	-2.826	.005
	Insurance & services	3812.500	5642.500	-.178	.858
2. Develops a collaborative structure which leads to the free exchange of ideas within the company.	Industrial & Banking	1325.000	8228.000	-2.249	.024
	Industrial & Insurance	2800.000	9703.000	-2.356	.018
	Industrial & services	6072.500	12975.500	-2.839	.005
	Banking & Insurance	882.500	2712.500	-.164	.870
	Banking & services	1882.500	10267.500	-.252	.801
	Insurance & services	3836.500	12221.500	-.103	.918
3. Fosters ongoing strategic dialogue among top teams through applying a reward and compensation system.	Industrial & Banking	1460.500	8363.500	-1.500	.134
	Industrial & Insurance	3284.500	5114.500	-.738	.460
	Industrial & services	6537.000	14922.000	-1.927	.054
	Banking & Insurance	709.000	2539.000	1.712	.087
	Banking & services	1373.000	9758.000	-2.623	.009
	Insurance & services	3640.000	12025.000	-.697	.486

**Source:** analysis of questionnaire data

### 5.5.5.2 Interview findings

The findings of the questionnaire reflected that the respondent companies agreed with all items regarding the application of an organic structure in Jordanian publicly quoted companies. However, participants from eight different companies were asked to explain the most applied activities which reflect the use of an organic structure in their companies. The results of the qualitative findings showed that all activities of an organic structure were discussed by all participants from different sectors, but no participant mentioned all seven activities regarding the application of an organic structure together as presented in table 5.26. For instance, some of the participants mentioned six activities out of seven and some four out of seven activities.

**Table 5. 15:** Interview findings regarding the activities organic structure

Applied activities	Valid No.= 8 interviews	
	No. mentioned	%
1. Motivates interaction and communication and encourages the generation of new ideas.	5	62.50
2. Develops a collaborative structure which leads to the free exchange of ideas within the company.	4	50.00
3. Fosters ongoing strategic dialogue among top team through applying a reward and compensation system.	2	25.00
4. Taking into account the operational and strategic necessities for designing a convenient structure for the company.	3	37.50
5. Develop shared beliefs and visions about the goals and values of the company with others.	3	37.50
6. Consider the development of a structure supportive of change and development for the company.	6	75.00
7. The ability to make rapid responses to the company's competitors and to changes in market demand.	5	62.50

**Source:** Analysis of data obtained from interviews

## **5.5.6 The use of environmental analysis**

### **5.5.6.1 Questionnaire findings**

In this section the participant companies were asked, on a five point scale ranging from 1= not important to 5= extremely important to indicate how important or significant the statements related to the process of environmental analysis were to their companies. Table 5.27 indicates that the means for all environmental analysis statements are above three which indicates a high contribution of the use of environmental analysis.

**Table 5. 16:** The use of environmental analysis (n=336 questionnaire)

<b>Environmental analysis</b>	<b>Rank</b>	<b>Mean*</b>	<b>STD. Dev.</b>
1. The consideration of company strengths and opportunities.	1	4.26	.756
2. Recognition of internal and external analysis of industry.	3	3.95	.820
3. Ability to understand the dynamics of the external and internal environments.	4	3.81	.858
4. Identification of the strategic issues of the company.	2	3.99	.857
5. Understanding of ambiguities and complexities for the interpretation and evaluation of events.	5	3.77	.856
Use of environmental analysis		3.9577	.66933

\* The mean is an average of scale 1= not important to 5= extremely important

Source: analysis of questionnaire data

Moreover, as presented in table 5.28, (see appendix 6) Spearman's correlation was applied to assess the relationships between the age of the company and employee numbers (size of the company) and the use of activities of environmental analysis. The results of this test indicate that there are significant relationships between the age of the company and three activities regarding the use of environmental analysis; namely, "recognition of internal and external analysis of industry" (correlation .110 at .05 level), "ability to understand the dynamics of the external and internal environments" (correlation .170 at .01 level) and "understanding of ambiguities and complexities for the interpretation and evaluation of events" (correlation .114 at .05 level).

The results of the correlation test in table 5.28 (see appendix 6) indicate only one significant relationship between the size of the company and the activities of environmental analysis; namely, "understanding of ambiguities and complexities for the interpretation and evaluation of events" (correlation .153 at .01 level).

The Kruskal-Wallis test was also performed to determine whether or not any statistically significant differences exist between company sectors and the use of environmental analysis (i.e. participants). The test was performed for each of the five activities. The result of this test shown in table 5.29 indicates statistically significant differences exist

between the four sectors (industrial, banking, insurance and services) regarding the use of environmental analysis activities. Regarding the findings of the Kruskal-Wallis test, the researcher cannot generalize these results to the four sectors so in order to examine the exact use of environmental analysis in the four sectors; the researcher used the Mann-Whitney test for testing two sectors at a time.

**Table 5. 17:** Kruskal-Wallis test: Environmental analysis by company sector

<b>Environmental analysis</b>	<b>Chi-Square</b>	<b>df</b>	<b>Asymp. Sig.</b>
1. The consideration of company strengths and opportunities.	18.243	3	0.000
2. Recognition of internal and external analysis of industry.	13.726	3	0.003
3. Ability to understand the dynamics of the external and internal environments.	7.828	3	0.050
4. Identification of the strategic issues of the company.	11.590	3	0.009
5. Understanding of ambiguities and complexities for the interpretation and evaluation of events.	8.086	3	0.044

**Source:** analysis of questionnaire data

Table 5.30 (see appendix 6) shows that there are significantly statistical differences identified in the first activity between the industrial and banking sectors ( $P= .012$ ), between the industrial and insurance sectors ( $P=.010$ ) and between the industrial and service sectors ( $P= .000$ ). This result reflects that the first activity is used by the industrial sector more than the banking, insurance and services sector.

Table 5.30 (see appendix 6) indicates that significantly statistical differences exist between the industrial and insurance sectors ( $P= .040$ ) and between the industrial and services sectors ( $P=.000$ ). This means that this activity regarding the use of environmental analysis is used more by the industrial sector than the banking and services sectors.

Table 5.30 (see appendix 6) shows that statistically significant differences exist between the industrial and banking sectors ( $P= .044$ ) and between the industrial and services sectors ( $P= .018$ ). This result means that the industrial sector uses this activity more than the banking and services sectors.

In addition, table 5.30 (see appendix 6) indicates that there are significant statistical differences in the fourth activity regarding the use of environmental analysis between the industrial and insurance sectors ( $P= .033$ ) and between the industrial and service sectors ( $P= .001$ ). This means that there are significant differences between the four sectors (i.e. this activity is used by the industrial sector more than the insurance and services sector).

Finally, by using the Mann-Whitney test, significant differences was identified between the industrial and banking sectors ( $P= .008$ ) and between the banking and services sectors ( $P= .020$ ). This means that this activity is used by the banking sector more than the industrial and services sectors.

#### **5.5.6.2 Interview findings**

The findings of the questionnaire showed that there is a major contribution in the companies concerned with the practice of environmental analysis as a part of the practice of strategic thinking. The findings of the interviews supported the quantitative findings and showed that the companies concerned with the process of environmental analysis for the benefit of their companies by asking the respondents whether or not any further attention was given to particular activities to practise environmental analysis. The interview findings showed that the companies used different activities to analyse their companies' environment with respect to the business sector. For instance, in giving more importance to the use of SWOT analysis to study different factors internally and externally to influence their performance now and in the future based on the information they get out from the process of SWOT analysis to implement capable strategies which fit with any possible threats to their companies.

For instance, in interview an executive manager from a leading national bank in Jordan stated that:

*“... Environmental analysis is practised in our bank. However, it focuses mainly on using SWOT analysis on a continuous basis to understand the dynamics of the internal and external environment to*

*achieve competitive advantage which lead to stay and grow in the market by responding to all types and sources of foreign and domestic competition because of the stronger competition we face domestically and from foreign banks operating in the Jordanian market. More focus on applying new methods regarding the use of new information technology and upgrading the skills of our bank staff and management as well as mastering new strategies and techniques used in risk management and competition”.*

## **5.5.7 Applying intelligent opportunism**

### **5.5.7.1 Questionnaire findings**

Table 5.31 presents the results of the questions regarding the application of intelligent opportunism. In this regard the participants in Jordanian companies were asked, on a five point scale ranging from 1= not important to 5= extremely important, to rate the use of applications which relate to the process of intelligent opportunism in their companies as a part of the practice of the process of strategic thinking.

**Table 5. 18:** The application of intelligent opportunism (n=336 questionnaire)

<b>Intelligent opportunism</b>	<b>Rank</b>	<b>Mean*</b>	<b>STD. Dev.</b>
1. Find out new competitive areas.	2	4.16	.849
2. Awareness of participation of middle managers.	5	3.87	.983
3. Awareness about company strengths and weaknesses.	1	4.24	.845
4. Consciousness about the main strategic problems of the company.	3	4.14	.786
5. Considering the input of strategies from lower level management suitable for a changing environment.	6	3.54	1.045
6. Identifying alternative strategies from people who are more innovative and more creative.	4	4.01	.970
Overall mean of Intelligent opportunism		3.9936	.70889

\* The mean is an average of scale 1= almost never use to 5= frequently use

Source: analysis of questionnaire data



To sum up this part of the questionnaire the findings regarding the applications of intelligent opportunism by the participants companies showed positive implementation of the intelligent opportunism in publicly quoted companies within the Jordanian context.

To examine whether or not there is an association between the uses of intelligent opportunism in term of the activity to find out new competitive areas and the age of the company, a chi-square was performed. However, since there are 13 cells (43.3%) which have an expected count less than 5, Fisher’s Exact test was conducted (see table 5.32). The test reveals that there is no statistically significant association between the activity of intelligent opportunism and the age of the company, because Fisher’s Exact test value within 20 degrees of freedom = 27.567,  $P= .053$  which means that no significant difference exists between the six categories of age in terms of the use of intelligent opportunism regarding the activity to find out new competitive areas and the age of the company.

**Table 5. 19:** Chi-square test: use of intelligent opportunism by age (n=336)

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	33.098(a)	20	.033	.034	
Likelihood Ratio	34.764	20	.021	.024	
Fisher's Exact Test	27.567			.053	
Linear-by-Linear Association	10.290	1	.001	.002	.001
N of Valid Cases	336				

a. 13 cells (43.3%) have expected count less than 5. The minimum expected count is .21.

c. The standardized statistic is 3.208.

**Source:** analysis of questionnaire data

In order to test whether or not there are statistically significant differences between the use of intelligent opportunism in term of awareness of the participation of middle managers and the age of the company, a chi-square test was performed. However, since there are 10 cells which have an expected count of less than 5, Fisher’s Exact test was conducted. The results (table 5.33) show that no statistically significant differences exist between the use of intelligent opportunism regarding the activity of awareness of participation of middle managers and the age of the company, because the Fisher’s exact

test value is within 20 degree of freedom = 27.133,  $P= .078$  which reflects that no statistically significant differences exist between the six categories of age and the use of intelligent opportunism activity.

**Table 5. 20:** Chi-square test: use of intelligent opportunism by age (n=336)

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	30.856 <sup>a</sup>	20	.057	.055	
Likelihood Ratio	29.738	20	.074	.089	
Fisher's Exact Test	27.133			.078	
Linear-by-Linear Association	13.048	1	.000	.000	.000
N of Valid Cases	336				

a. 10 cells (33.3%) have expected count less than 5. The minimum expected count is .29.

b. The standardized statistic is 3.612.

**Source:** analysis of questionnaire data

In the same context, and in order to test whether or not there is a statistically significant association between the use of intelligent opportunism activity regarding the awareness of company strengths and weaknesses and the age of the company, a chi-square test was conducted. However, since there were 14 cells which have an expected count of less than 5; Fisher's exact test was performed instead. The results (table 5.34) indicate that there is no statistically significant association between the activity of the use of intelligent opportunism (i.e. awareness about company strengths and weaknesses) and age (Fisher's Exact value with 20 degree of freedom= 24.750,  $P= .112$ , 2- sided), which reflect that no statistically significant differences exist between the six categories of age in term of the use of intelligent opportunism activity.

**Table 5. 21:** Chi-square test: use of intelligent opportunism by age (n=336)

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	31.397 <sup>a</sup>	20	.050	.050	
Likelihood Ratio	32.473	20	.039	.051	
Fisher's Exact Test	24.750			.112	
Linear-by-Linear Association	3.010	1	.083	.087	.043
N of Valid Cases	336				

a. 14 cells (46.7%) have expected count less than 5. The minimum expected count is .29.

b. The standardized statistic is 1.735.

**Source:** analysis of questionnaire data

Moreover, to identify whether or not there are statistically significant differences between the use of intelligent opportunism regarding the activity of consciousness about the main strategic problems of the company and the age of the company, a chi-square test was performed. However, since there were seven cells (29.2%) having an expected count value less than 5, Fisher's exact test was applied. The result of Fisher's exact test (table 5.35) shows statistically significant differences between the activity of intelligent opportunism and age (Fisher's Exact test value= 31.126,  $P = .004$ , 2-sided) (i.e. statistically significant differences exist between the six categories of age and the use of intelligent opportunism activity).

**Table 5. 22:** Chi-square test: use of intelligent opportunism by age (n=336)

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	35.965 <sup>a</sup>	15	.002	.002	
Likelihood Ratio	39.552	15	.001	.000	
Fisher's Exact Test	31.126			.004	
Linear-by-Linear Association	6.441	1	.011	.012	.005
N of Valid Cases	336				

a. 7 cells (29.2%) have expected count less than 5. The minimum expected count is .86.

b. The standardized statistic is 2.538.

**Source:** analysis of questionnaire data

In order to examine why there were statistically significant differences between the use of intelligent activity and the age of the company, table 5.36 reveals that there are large

differences between the actual count and the expected count in some of the cells. These large differences between the actual and expected count may explain why there was an association between the activity of intelligent opportunism and age.

**Table 5. 23:** Chi-square test: use of intelligent opportunism by age (n=336)

		Company Age						Total
		<10	10-19	20-29	30-39	40-49	>=50	
Slightly important	Count	0	6	6	0	0	0	12
	Expected Count	1.3	3.6	2.0	2.6	.9	1.6	12.0
Moderately important	Count	7	22	7	6	1	4	47
	Expected Count	5.0	14.3	8.0	10.1	3.4	6.3	47.0
Very important	Count	16	40	31	31	16	24	158
	Expected Count	16.9	48.0	26.8	33.9	11.3	21.2	158.0
Extremely important	Count	13	34	13	35	7	17	119
	Expected Count	12.8	36.1	20.2	25.5	8.5	15.9	119.0
Total	Count	36	102	57	72	24	45	336
	Expected Count	36.0	102.0	57.0	72.0	24.0	45.0	336.0

**Source:** analysis of questionnaire data

In order to identify whether or not there is an association between the use of intelligent opportunism in terms of considering the input of strategies from lower level management suitable for a changing environment and the age of the company, a chi-square test was applied. However, since there were eight cells which have an expected count less than 5, Fisher's exact test was performed. The results in table 5.37 indicate that there are statistically significant differences between the activity considering the input of strategies from lower level management suitable for a changing environment regarding the use of intelligent opportunism and age (Fisher's Exact value= 45.642,  $P = .000$ , 2-sided). This means that there is relationship between the use intelligent opportunism activity and the

age of the company (i.e. significant differences exist between the six categories of company age in terms of the use of intelligent opportunism activity).

**Table 5. 24:** Chi-square test: use of intelligent opportunism by age (n=336)

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	49.480 <sup>a</sup>	20	.000	.000	
Likelihood Ratio	49.476	20	.000	.000	
Fisher's Exact Test	45.642			.000	
Linear-by-Linear Association	6.380	1	.012	.012	.006
N of Valid Cases	336				

a. 8 cells (26.7%) have expected count less than 5. The minimum expected count is .86.

b. The standardized statistic is 2.526.

**Source:** analysis of questionnaire data

Table 5.38 shows that there are large differences between the actual count and expected count which may explain why there was an association between the use of intelligent opportunism activity and age (i.e. in the first category of age <10 years, there were large differences between the actual count and the expected count).

**Table 5. 25:** Chi-square test: use of intelligent opportunism by age (n=336)

		Company age						Total
		<10	10-19	20-29	30-39	40-49	>=50	
Not important	Count	2	2	5	1	0	2	12
	Expected Count	1.3	3.6	2.0	2.6	.9	1.6	12.0
Slightly important	Count	12	22	4	6	2	2	48
	Expected Count	5.1	14.6	8.1	10.3	3.4	6.4	48.0
Moderately important	Count	6	24	19	10	9	13	81
	Expected Count	8.7	24.6	13.7	17.4	5.8	10.8	81.0
Very important	Count	12	36	16	41	12	21	138
	Expected Count	14.8	41.9	23.4	29.6	9.9	18.5	138.0
Extremely important	Count	4	18	13	14	1	7	57
	Expected Count	6.1	17.3	9.7	12.2	4.1	7.6	57.0
Total	Count	36	102	57	72	24	45	336
	Expected Count	36.0	102.0	57.0	72.0	24.0	45.0	336.0

**Source:** analysis of questionnaire data

The Chi-square test was used to identify whether or not there is an association between the use of intelligent opportunism in terms of the activity of identifying alternative strategies from people who are more innovative and more creative and the age of the company. However, since the result in table 6.39 includes 6 cells which have an expected count of less than 5, Fisher's Exact test indicates that there is no statistically significant association (Fisher's Exact value= 26.18,  $P= .101$ , 2-sided). This means that there is no statistically significant association between the use of intelligent opportunism activity and the six categories of age of the companies.

**Table 5. 26:** Chi-square test: use of intelligent opportunism by age (n=336)

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	29.279 <sup>a</sup>	20	.082	.084	
Likelihood Ratio	34.256	20	.024	.041	
Fisher's Exact Test	26.180			.101	
Linear-by-Linear Association	2.492	1	.114	.120	.061
N of Valid Cases	336				

a. 12 cells (40.0%) have expected count less than 5. The minimum expected a. count is .57.

b. The standardized statistic is 1.578.

**Source:** analysis of questionnaire data

A Chi-square was conducted to examine whether or not there is an association between the use of intelligent opportunism activities and employee numbers (size of the company). The test was used for each of the six activities of intelligent opportunism. The result shows that the chi-square tests indicate no statistically significant association between intelligent opportunism and employee numbers (size of the company) (see table 5.40). However, since all cells of the chi-square test have an expected count of less than 5, Fisher's exact test was performed. Fisher's exact test shows that no statistically significant association exists between the use of intelligent opportunism activities and the seven categories of employee numbers.

**Table 5. 27:** Chi-square test: use of intelligent opportunism by employee number (size of company) (n=336)

Intelligent opportunism activities	Chi-Square Values	Asymp. Sig. (2-sided)	Number of cells	Fisher's Exact Test	Exact Sig. (2-sided)
1. Find out new competitive areas.	27.558	.279	23	26.703	.259
2. Awareness of participation of middle managers.	21.700	.597	21	22.801	.476
3. Awareness about company strengths and weaknesses.	34.543	.075	23	32.735	.056
4. Consciousness about the main strategic problems of the company.	14.956	.665	16	12.315	.793
5. Considering the input of strategies from lower level management suitable for a changing environment.	28.362	.245	20	27.308	.180
6. Identifying alternative strategies from people who are more innovative and more creative.	23.587	.485	21	23.019	.406

**Source:** analysis of questionnaire data

A Kruskal-Wallis test was conducted to identify whether or not any statistically significant differences exist between the four company sectors regarding the use of intelligent opportunism activities. The test was performed for each of the six activities. The results of this test is shown in table 6.41(see appendix 6) which indicates that statistically significant differences exist between the four sectors (industrial, banking, insurance, services) in three activities; namely, “awareness of participation of middle managers” (Chi-Square value= 9.018,  $P= .029$ ), “awareness about company strengths and weaknesses” (Chi-Square value= 9.124,  $P= .028$ ) and “identifying alternative strategies from people who are more innovative and more creative” (Chi-Square value= 11.537,  $P= .009$ ).

The findings of the Kruskal-Wallis test cannot be generalized to the four sectors and in order to examine the exact use of intelligent opportunism the Mann-Whitney test was used, testing two sectors each time for the three significant activities to identify if any



significant differences exist between the four sectors regarding the use of intelligent opportunism activities.

The results of the Mann-Whitney test (table 5.42) (see appendix 6) indicate that there are statistically significant differences between the four sectors in three activities. These differences are identified between the industrial and banking sectors ( $P= .002$ ), between the banking and insurance sectors ( $P= .019$ ) and between the banking and services sectors ( $P= .017$ ). These results reflect that the fact the second item is used by the banking sector more than the industrial, insurance and services sectors. Furthermore, the test result shows that significantly statistical differences exist between sectors in activity three, between the industrial and services sectors ( $P= .036$ ) and between the insurance and service sectors ( $P= .014$ ). The result of this activity reveals that it is used by the industrial, insurance and services sectors. Finally, table 5.42 (see appendix 6) shows that one significant difference exists between two sectors for activity number 6. For activity number 6 the significant difference exists between the industrial and services sector ( $P= .001$ ) and this means that this activity is used by the industrial sector more than the services sector.

#### **5.5.7.2 Interview findings**

The participants were asked whether or not any further attention was given to particular activities to practise intelligent opportunism in order to benefit from ideas and opportunities that may be related to the nature of their business.

The interview findings showed that the participants from different sectors concentrate on particular activities regarding the use of intelligent opportunism related to the nature of the sector. An interview with a leading insurance company revealed that their company concentrates on inputting their strategies from creative employees from different management level within the company.

The participant stated that;

*“.... There is a free of exchange of information between the three levels of management because of the exchanging environment to create innovative strategies that may be more suitable to their company which aims to reduce the uncertainty regarding the changing environment”.*

An interview with a financial manager from a national bank in reflected that there was a big focus on increasing market share in the market related to the high competition and due to the services which were offered by new branches investing in Jordan.

The participant stated that:

*“.... To compete in the market the bank developed and added new services which were introduced to new and current customers and looking to a new competitive area for investments....also, we always give more importance to study the strengths and weakness to track suitable strategies consistent with the bank environment.... Motivating and giving a chance to all employees from different levels to share and come up with new strategies related to their business sector”.*

In summary, the previous presentation of data analysis has examined the first objective of this research. The first objective concerns the extent of familiarity with the concept and purpose of strategic thinking in Jordanian publicly quoted companies. This objective was achieved by examining the following assumptions:

- The knowledge of Jordanian publicly quoted companies about the concept and purpose of strategic thinking is low.
- The extent of knowledge of Jordanian publicly quoted companies about the concept and purpose of strategic thinking has a positive relationship with organizational characteristics.

The second objective concerns the extent of the practice of strategic thinking in Jordanian publicly quoted companies. This objective was achieved by examining a number of aspects: reflecting thinking skills, reframing thinking skills, systems thinking skills, application of organic structure, use of environmental analysis and the application of intelligent opportunism. The second objective was expressed by the following assumption: The extent of the practice of the strategic thinking process in Jordanian publicly quoted companies is low.

The third objective which was examined concerns investigating the organizational characteristics (company age, company size and nature of business) which influence the extent of the practice of strategic thinking in Jordanian publicly quoted companies with the aspects which are mentioned in objective 2.

The third objective was expressed by the following assumption:

The extent of the practice of strategic thinking in Jordanian publicly quoted companies depends upon organizational characteristics (age, size of company and nature of business). This includes the following sub-assumptions:

- The age of the company has a positive relationship with the extent of the practice of strategic thinking in Jordanian publicly quoted companies.
- The number of company employees (i.e. size of company) has a positive relationship with the extent of the practice of strategic thinking in Jordanian publicly quoted companies.
- There is a positive relationship between the extent of the practice of strategic thinking in Jordanian publicly quoted companies and the nature of business (industrial, services, banking and insurance).

However, the previous analysis indicates that:

1. The knowledge of Jordanian publicly quoted companies about the concept and the purpose of strategic thinking is high.
2. The knowledge of Jordanian publicly quoted companies about the concept and the purpose of strategic thinking has a positive relationship with organizational characteristics (age, size of the company and nature of business). This includes:
  - A strong relationship between age of the company and familiarity with the concept and purpose of strategic thinking in publicly quoted companies.
  - No relationship between the size of the company and familiarity with the concept and purpose of strategic thinking in publicly quoted companies.
  - Medium differences across the four sectors (age, size of company, nature of business) regarding familiarity with the concept and the purpose of strategic thinking in publicly quoted companies.
3. The extent of the practice of the strategic thinking process has a positive relationship with organizational characteristics (age, size of the company and nature of business). This includes:
  - Strong positive relationship between the age of the company and the extent of the practice of strategic thinking process in Jordanian publicly quoted companies.
  - Small positive relationship between the size of the company and the extent of the practice of strategic thinking process in Jordanian publicly quoted companies.
  - Strong positive relationship between the organizational characteristics and the extent of the practice of strategic thinking process in Jordanian publicly quoted companies.

## 5.6 Barriers influencing the implementation of the strategic thinking process

### 5.6.1 Questionnaire findings

In this section the respondent companies (n=336) were asked, on a scale rating from 1= “strongly disagree” to 5= “strongly agree”, to indicate the rank of how problematic the strategic thinking implementation process had been in their companies for a number of items. Table 5.43 shows that the mean values for all items associated with the implementation barriers were relatively high. This reflects a high level of experience of these problems which affect and prevent the practice of strategic thinking in the companies investigated. Table 5.43 shows differences in the mean values between these items (implementation barriers). An overall mean of 3.8129 was recorded reflecting that the respondents agreed with the factors (i.e. barriers) influencing the practice of the strategic thinking process.

**Table 5. 28:** Barriers influencing the practice of the strategic thinking process (n=336 questionnaire)

<b>Barriers influencing the practice of strategic thinking</b>	<b>Rank</b>	<b>Mean*</b>	<b>STD. Dev.</b>
1. Insufficient integration at all levels of company management.	5	3.80	.939
2. Insufficient programmes introduced to employees to train them in thinking strategically.	1	4.04	.819
3. Unclear benefits of strategic thinking processes to your company	4	3.82	.904
4. Applying strategic thinking requires more time which affects the current work of company staff.	7	3.63	.962
5. Inadequate review of company structure, may act as barrier to practise strategic thinking.	6	3.72	.828
6. Inadequate incentive programmes to explore forward thinking and creativity.	3	3.98	.816
7. Inadequate training programmes in order to become strategic thinkers.	2	4.00	.857
8. Insufficient capabilities involved in environmental scanning for opportunities and threats.	8	3.51	.977
Barriers to strategic thinking		3.8129	.57506

\* The mean is an average of scale 1= strongly disagree to 5= strongly agree

Source: analysis of questionnaire data

Spearman's correlation test was conducted to assess the relationships between the age and the size of the company (employee numbers) and the factors which influence and prevent the implementation of the strategic thinking process. Table 5.44 (see appendix 6) reveals that the findings of the correlation test between the age and factors which influence the implementation of strategic thinking is negative for three activities; namely, unclear benefits of strategic thinking processes to your company (correlation  $-.124$  at  $.05$  level), inadequate incentive programmes to explore forward thinking and creativity (correlation  $-.169$  at  $.01$  level) and inadequate training programmes in order to become strategic thinkers (correlation  $-.167$  at  $.01$  level).

Table 5.44 (see appendix 6) shows that there are small negative relationships between the size of the company (employee numbers) and the barriers which influence and prevent the implementation of the strategic thinking process; namely, unclear benefits of strategic thinking processes to the company (correlation  $-.101$  at  $.05$  level) and inadequate incentive programmes to explore forward thinking and creativity (correlation  $-.160$  at  $.01$  level).

The Kruskal-Wallis test was used to identify whether or not any significant differences exist between the four sectors (industrial, banking, insurance, services) regarding the barriers associated with practising the process of strategic thinking. The test was conducted for each of the eight barriers. The results in table 6.45 (see appendix 6) shows that there are no statistically significant differences between the four sectors except for three barriers; namely, "insufficient programme introduced to employees to train them in thinking strategically" (Chi-Square value=  $8.776$ ,  $P= .032$ ), "inadequate incentive programmes to explore forward thinking and creativity" (Chi-Square value=  $12.985$ ,  $P= .005$ ) and "insufficient capabilities involved environmental scanning for opportunities and threats" (Chi-Square value=  $21.262$ ,  $P= .000$ ).

The findings of the Kruskal-Wallis test cannot be generalized to all sectors. The Mann-Whitney test was used to determine if any significant differences exist between the four sectors regarding the three mentioned above barriers which prevent practising the process of strategic thinking and to identify the sectors which face these barriers.

The results of the Mann-Whitney test (table 5.46) (see appendix 6) indicate statistically significant differences exist between the four sectors for three items regarding the barriers which prevent the practice of strategic thinking. These differences identified differences between the industrial and insurance sectors ( $P= .005$ ) and between insurance and services ( $P= .022$ ). This result reflect that the item “insufficient programmes introduced to employees to train them in thinking strategically” is faced by the industrial more than the insurance sector and by the insurance more than the service sector because the P-values are less than 5%. Moreover, the test shows that statistically significant differences exist between the industrial and services sectors ( $P= .007$ ), between banking and insurance ( $P= .021$ ) and between banking and services ( $P= .004$ ). This result reveals that the item “inadequate incentive programmes to explore forward thinking and creativity” is faced by the industrial more than the services sector and by banking more than the insurance and services sector. Finally, the result of the Mann-Whitney test shows that there are statistically significant differences between three sectors: the industrial and services sectors ( $P= .000$ ) and between the insurance and services sector ( $P= .001$ ) regarding the item “insufficient capabilities involved environmental scanning for opportunities and threats”. This item affects the industrial sector more than the services sector and affects the insurance sector more than the services sector.

### **5.6.2 Interview findings**

The findings of the questionnaire showed that the respondents agreed with all the statements that may prevent the practice of strategic thinking. However, respondents from eight publicly quoted companies in Jordan from different sectors were asked about the main factors which may prevent the practice of strategic thinking. The result of the semi-structured interviews is to measure the number of times any given barrier of strategic

thinking was mentioned. For instance, some of the participants mentioned seven out of eight obstacles to strategic thinking and some mentioned three out of eight barriers.

**Table 5. 29:** Barriers preventing the practice of strategic thinking by number mentioned

Factors prevent the practice of strategic thinking	Valid No.= 8 interviews	
	No. mentioned	%
1. Insufficient integration at all levels of company management.	6	75.00
2. Insufficient programmes introduced to employees to train them in thinking strategically.	5	62.50
3. Unclear benefits of strategic thinking processes to your company.	5	62.50
4. Applying strategic thinking requires more time which affects the current work of company staff.	3	37.50
5. Inadequate review of company structure, may act as barrier to practise strategic thinking.	4	50.00
6. Inadequate incentive programmes to explore forward thinking and creativity.	3	37.50
7. Inadequate training programs in order to become strategic thinkers.	6	75.00
8. Insufficient capabilities involved in environmental scanning for opportunities and threats	3	37.50

**Source:** Analysis of data obtained from interviews

The data analysis in this section examines the fourth objective of this research. This objective was achieved by examining the following assumptions:

The organizational characteristics have significant differences in relation to the extent of the practice of strategic thinking implementation barriers in Jordanian publicly quoted companies.

This includes the following sub-assumptions:

- There are significant differences in the extent of experienced strategic thinking implementation barriers across the four sectors of business.
- There are significant differences in the extent of experienced strategic thinking implementation barriers across company age level.
- There are significant differences in the extent of experienced strategic thinking implementation barriers across company size level.



The previous analysis reflected that:

Small significant differences exist in the extent of experienced strategic thinking implementation barriers across the four sectors of business. Moreover, the analysis reflected that small negative significant differences exist in the extent of the strategic thinking implementation barriers experienced across the age and size levels in Jordanian publicly quoted companies.

## **5.7 Summary**

This chapter has investigated the research objectives through the data collected by face to face questionnaire (quantitative method) and semi-structured interviews (qualitative method). The research objectives include: examine the familiarity of the concept and purpose of strategic thinking in Jordanian publicly quoted companies; examine the extent of practising strategic thinking in Jordanian publicly quoted companies; investigate the organizational characteristics (company age, company size and nature of business) in Jordanian publicly quoted companies which influence the extent of the practice of strategic thinking process; and examine the barriers that are likely preventing the practice of the strategic thinking process in Jordanian publicly quoted companies. Different statistical techniques were used (i.e. means, frequencies, percentages, standard deviation, chi-square test, Spearman's correlation test, Kruskal-Wallis test, Mann-Whitney test) to describe the characteristics of respondents and their companies. Checking for non-response bias was also presented. Finally, the research questions were examined and the assumptions tested.

A discussion of the findings of the previous used statistical analysis will be presented in the next chapter.

**CHAPTER SIX**  
**DISCUSSION OF RESEARCH FINDINGS**

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## **Chapter Six**

### **Discussion of Research Findings**

#### **6.1 Introduction**

The aim of this chapter is to discuss the findings that have emerged from the statistical analysis presented in Chapter Five in relation to the existing literature about strategic thinking. It provides an interpretation of and reflection on the quantitative and qualitative findings presented in the previous chapter. This chapter is divided into four main sections: section 6.2 discusses the characteristics of the research population respondents and their companies. Section 6.3 discusses the extent of knowledge of and familiarity with the concept and purpose of strategic thinking in Jordanian companies which is related to achieving the first objective and part of the third objective (i.e. it discusses the effects of organizational characteristics, age, size and nature of business, on the knowledge of and familiarity with the concept and purpose of strategic thinking). Section 6.4 discusses the extent of the practice of strategic thinking in Jordanian companies which is relevant to achieving the second and third objectives (i.e. it discusses the effects of organizational characteristics, age, size and nature of business, on the extent of the practice of the strategic thinking in Jordanian companies). The last section discusses the barriers that influence or prevent the practice of strategic thinking in Jordanian companies.

The research objectives are:

1. Examine the familiarity of the concept and purpose of strategic thinking in Jordanian publicly quoted companies.
2. Examine the extent of the practice of strategic thinking in Jordanian publicly quoted companies by investigating the following subjects:
  - The use of reflective thinking skills
  - The use of reframing thinking skills
  - The use of systems thinking skills

- The application of organic structure
  - The use of environmental analysis
  - The use of intelligent opportunism
3. Investigate the organizational characteristics (company age, company size and nature of business) in Jordanian publicly quoted companies which influence the extent of the practice of strategic thinking.
  4. Examine the barriers that are likely preventing the practice of the strategic thinking process in Jordanian publicly quoted companies.

## **6.2 Characteristics of the population: respondents and companies**

This section aims to discuss the characteristics of respondents and participants.

### **6.2.1 The respondents' gender, age, education levels, management levels, and level of work experience**

86.9% of the respondents were male, while 13.1% were female. The result indicates that the majority of employees in publicly quoted companies in Jordan are male. Based on this result the observer of the studies which have been undertaken in Jordan in the field of business and management finds that the percentage of men in Jordanian companies is more than double that of females (Sawalha 2011, Twaissi 2008, Al Khattab 2006, Aldehayyat, 2006, Abu Khadra and A.Rawabdeh 2006), which is consistent with the findings of this study.

Arab societies seem to be reluctant to abandon their cultural characteristic of women being primarily committed to the house and children because men consider households and house activities are suitable and related for women; also, Arab families tend to educate their sons rather than daughters on the assumption that men are a greater economic asset than women (Mostafa, 2005).

51.8% of respondents were above 40 years and 29.5% were between 36 and 40 years, 11.3% were between 31 and 35 years, 6% were between 26 and 30 years and 1.5% less than 25 years old.

Observing the respondents' education level, the study shows that most employees in Jordanian publicly quoted companies possess Bachelor's degrees (67.6%), whereas 22.6% of the respondents hold postgraduate degrees (Master and PhD).

39% (131 out of 336) respondents are working at top management level, 48.5% in the middle management level and 12.5% in lower level management.

50.9% of employees have work experience of more than 13 years in total, while the lowest percentage (4.5%) have work experience less than 4 years. 29.5% of employees had work experience from 9 to 12 years, while 15.2% had between 5 and 8 years work experience. This gives the impression that the respondents in Jordanian publicly quoted companies have a high level of work experience which reflects their knowledge and familiarity with the concept and purpose of strategic thinking as well as the use of strategic thinking activities. Pisapia (2009, p. 21) stated that the use of strategic thinking skill will be improved with the age, education and the experience of the individual; "the younger you are the less you use these skills".

### **6.2.2 The respondent' companies' age, business type, employee numbers (size of the company) and company ownership.**

The data collected shows the companies aged between 10 and 19 years comprised 30.4% of the total, followed by 21.4% of respondents from companies aged between 30 and 39 years, 17% 20-29 years, 7.1% age 40 and 49 years, 13.4% of respondents' companies greater than or equal to 50 years old, while respondents' companies which are less than 10 years comprised 10.7%. The findings show that the majority of respondents' companies (79.5%) were between 1 and 39 years of age. This result is consistent with the findings of previous studies conducted in Jordan, such as Sawalha (2011) who found that 74.5% of respondents' companies were between 1 and 30 years of age, and Aldehayyat

and Anchor (2008) who found that 73.5% of Jordanian companies were established after 1975.

34.8% (29 out of 75) of the investigated companies were from the industrial sector, 8.9% (10 out of 15) were from the banking sector, 17.9% (20 out of 27) were from the insurance sector, and 38.4% (43-129) were companies from the services sector.

Companies that employed less than 100 employees comprised 38.4%, 100 to 499 employees comprised 31.3%, 500 to 999 employees comprised 13.4%, 1000 to 1999 employees comprised 9.8%, 2000 to 2999 employees comprised 1.8%, 3000 to 3999 employees comprised 1.8%, and finally those companies which employed 4000 or more employees comprised 3.6%. The researcher observed that younger companies do not participate in some of the activities of strategic thinking. This result indicates that there is more concentration in the services sector followed by the industrial sector in Jordan than the other sectors. Moreover, this result is consistent with the findings of previous studies conducted in Jordan such as Sawalha (2011) and Aldehayyat and Anchor (2008).

Regarding company ownership, this study also shows that 15.2% (51 companies) of the investigated companies were government owned or in partnership with the private sector and 84.8% (285 companies) were in private ownership. This result indicates that the majority of Jordanian publicly quoted companies are private companies and this relates to the privatization programme which was applied by past Jordanian governments (Awamleh, 2002).

### **6.3 The knowledge of and familiarity with the concept and purpose of strategic thinking**

This section aims to explain and evaluate the analysis of findings that emerged from the empirical study which reflect the extent of knowledge of and familiarity with the concept and purpose of strategic thinking and discuss the effect of organizational characteristics (age, size of company and nature of business) on the knowledge of and familiarity with

the concept and purpose of strategic thinking in publicly quoted companies. This factor will be determined by studying the statements which relate to the first objective and part of the third objective of this research (investigating the extent of knowledge of and familiarity with the concept and purpose of strategic thinking as well as the effect of organizational characteristics on the knowledge of and familiarity with the concept and purpose of strategic thinking in Jordanian publicly quoted companies).

### **6.3.1 The extent of knowledge of and familiarity with the concept and purpose of strategic thinking in Jordanian companies**

Based on analysis of the knowledge of and familiarity with the concept and purpose of strategic thinking, the research findings indicate that Jordanian companies have good knowledge of and are familiar with the concept and purpose of strategic thinking, and that they believe in its value to achieve its purpose which is to lead to strengthening or gaining competitive advantages. Also, the analysis reveals that these companies believe in their ability to think strategically to compete for the future and determine the efficiency of their companies as well as to succeed and control future markets. Moreover, the majority of these companies believe in strategic thinking returns in relation to the practice of strategic thinking; this may relate also to encouragement of all employees at all levels of the company through participating in the creation and development of innovative ideas and strategies which determine the direction of their companies.

These findings are based on the questionnaire results that companies in Jordan are concerned with strengthening or gaining competitive advantage, with a score of 4.38, while they indicated that strategic thinking draws a picture of the company by connecting the past, present, and future (score 4.21). The lowest score recorded related to “the process of strategic thinking must take place at all levels of the company”. Also, the questionnaire findings showed that the overall means of the concept and the purpose of strategic thinking section recorded is more than 3, which indicates that the concept and purpose of strategic thinking is obviously considered important and appropriate for the respondents’ companies.



The interviews support these findings: six out of eight interviewees (75%) consider “strategic thinking helps to strengthen or gain competitive advantage” to be the most important item in the knowledge of and familiarity with the concept and purpose of strategic thinking, followed by five out of eight (62.5%) who consider “strategic thinking is included in strategy formulation and implementation, and in determining the strategic performance of the company” as well as “strategic thinking is connected with solving strategic issues and conceptualizing the future of the company” to be one of the most important items of the knowledge of and familiarity with the concept and purpose of strategic thinking. Finally, only three out of eight participants (37.5%) mentioned that strategic thinking is a synthesizing process resulting in good employment intuition and creativity in the formulation of the strategic direction of the company. This supports the findings of the quantitative results in which it was found that the concept and purpose of strategic thinking in Jordanian companies from different sectors have relatively high knowledge of and are familiar with the concept and purpose of strategic thinking, as was shown in sub-section 5.5.1.1.

Moreover, the findings of this research regarding the concept and purpose of strategic thinking in Jordanian companies mirror the strategic thinking literature and show consistency with the studies of Karđin and Aktař (2012); Goldman and Casey (2010); El-Farra et al., (2008); Pisapia et al., (2005); Bonn (2001) and Heracleous (1998), which reflected that the knowledge of the concept and purpose of strategic thinking is considered an important step for organizations to develop and achieve successful strategies; determine organizations’ efficiency and strategically within that complex situation; motivates, evaluation, comparing, critiquing and lead to synthesizing information; achieving competitive advantage and creating and implementing new ideas through the participation of employees in the process of strategic thinking at all management levels of organizations. Moreover, the literature review reflects (in Chapter Two) that strategic thinking is about the development of ideas and novel solutions to create competitive advantage (Bonn, 2005; Bonn, 2001) and to provide alternative choices for competing and providing customer value (Abraham, 2005).

### **6.3.2 The effect of organizational characteristics on the knowledge of and familiarity with the concept and purpose of strategic thinking**

It is obviously apparent that the age of the company has a statistically medium relationship with the contribution of strategic thinking to the knowledge of and familiarity with the concept and its purpose. Five concepts and purposes out of seven were related to company age; namely, “strategic thinking helps to strengthen or gain competitive advantage”, “strategic thinking draws a picture of the company by connecting the past, present, and future”, “strategic thinking is a synthesizing process resulting in good employment intuition and creativity in the formulation of the strategic direction of the company”, “strategic thinking is connected with solving strategic issues and conceptualizing the future of the company” and “the process of strategic thinking must take place at all levels of the company”. Also, the findings show that the size of the company has no statistically significant relationship with the contribution of strategic thinking to the knowledge of and familiarity with its concept and purposes (i.e. no statistically significant relationship between the size of the company and the concept and purposes of strategic thinking). This indicates that the age of the company did affect or influence the knowledge of and familiarity with the concept and purpose of strategic thinking, while the size of the company had no effect on the determination of the knowledge of and familiarity with the concept and purpose of the concept of strategic thinking in Jordanian publicly quoted companies. That is to say, the company that has a longer age has knowledge of and is familiar with the concept and purpose of strategic thinking (i.e. 89.3% of respondents Jordanian companies have an age above 10 years). This result is consistent with El-Farra et al. (2008) who found no significant difference between the size of Healthcare Divisions in Gaza Strip and strategic thinking attributes (i.e. represents the concept of strategic thinking) introduced by Liedtka 1998.

The results of Kruskal-Wallis tests indicated that relatively few differences existed between the four sectors (i.e. industrial, banking, insurance and services) for three concepts and purposes of strategic thinking out of seven; namely, “strategic thinking is included in strategy formulation and implementation, and in determining the strategic performance of the company” is known by the industrial more than the other sectors

(banking, insurance and services). “Strategic thinking is connected with solving strategic issues and conceptualizing the future of the company” is known by the industrial sector more than the other sectors. Finally, “strategic thinking must take place at all levels of the company” is known by the industrial sector more than banking, and by the banking sector more than insurance and services. These findings reflect that the business areas (i.e. Jordanian publicly quoted companies) know and are familiar with the concept and purpose of strategic thinking, do not differ significantly between the four sectors in four concepts and purposes, and do differ in three concepts and purposes. As a result, the nature of business has a small effect or influence on the knowledge of and familiarity with the concept and purpose of strategic thinking in Jordanian companies. This result is consistent with El-Farra et al. (2008) who found no significant difference between the Divisions of Ministry of Health in Gaza Strip and strategic thinking attributes (i.e. represents the concept of strategic thinking) introduced by Liedtka (1998).

#### **6.4 The practice of strategic thinking in Jordanian companies**

This section aims to explain and evaluate the analysis of the findings that emerged from the empirical study regarding the extent of the practice of strategic thinking in Jordanian publicly quoted companies which relate to achieving the second objective. This will be identified by discussing its factors (i.e. reframing thinking, reflecting thinking, systems thinking, organic structure, environmental analysis, intelligent opportunism).

##### **6.4.1 The extent of practice of strategic thinking in Jordanian companies**

- **The use of reflecting thinking skills**

From the analysis of the use of reflecting thinking skills, the research findings indicate that the majority of Jordanian companies believe in the ability of reflecting thinking skills through using their experience and knowledge of any problem and use of information gathered by experience which will lead to a solution of the problem; also the finding indicates that Jordanian companies create balance between actual reflections and the

decisions that have been made. In this context, the questionnaire findings showed that the use of reflecting thinking skills scored 3.7193 overall. It has been found that trying to take into account the use of information gathered by experience in the solution of a problem scored 4.00. The lowest score recorded is in “acknowledging the limitations of your own perspective” with a score of 3.41. From the questionnaire findings it seems that Jordanian companies believe and use these skills to get benefits and returns regarding the use of reflecting thinking skills in which the findings reflect a relatively high use of reflective thinking activities. Moreover, it was found that mean values of all skills were relatively close to one other. This suggests that all of these activities (skills) are similarly significant to Jordanian companies and are covered by the strategic thinking perspective. That is to say, reflecting thinking skills are relatively highly used by Jordanian companies within different sectors. This result may relate to the age of participants, education level, management level and work experience (i.e. 67.6% have Bachelor degree, 20.8% Master degree, 39% top level management participants, 48.0 % middle management level, 9-12 years’ work experience 29.5%, 13+ years’ work experience 50.9%). In the same context, Pisapia et al. (2009) found that there is a relationship among the five categories of the age of respondents and the use of strategic thinking skills (i.e. reflective thinking skills) and that the group aged 20-25 years use reflective thinking skills but less than the other categories in their sample study (i.e. the use of reflective thinking skills increases with age). Moreover this result is consistent with Karğın and Aktaş (2012) study which found that the use of reflective thinking skills relates to education level (i.e. Bachelor’s degree).

On the other hand, the semi-structured findings showed that Jordanian companies from different sectors focus on particular activities that may relate to the nature of the business; for example, all participants mentioned that their companies try to apply experience and knowledge and focus in using information gathered by experience in solution of problems, six out of eight participants take into account the real life implications when thinking about decisions that they have made and discovering how they could have handled a situation better. When thinking about past decisions that they have made, five out of eight participants mentioned that their companies always try to seek help from professionals and colleagues regarding the past decisions and actions that have been made

and also they seek to frame problems from different perspectives; moreover, three participants accept the limitation of their perspective to solve a problem, and finally three participants out of eight mentioned that their companies seek to develop an understanding of problems as well as asking about the reasons that led to the existence of these problems.

An interview with a participant from a leading industrial company reflected that reflecting thinking skills are always practised in that company. However, in practising reflecting thinking skills the participant stated that:

*“...our focus is in reviewing past decisions to deal with new situations which will improve our future actions as well as trying to know why some decisions succeed and some failed by applying our knowledge, information and experience together... Also, we are less focused on solving problems depending on one point of view”.*

For instance, in another interview a participant from a Jordanian industrial company stated that:

Reflecting thinking is practised in our company and mainly:

*“...Our focus is seeking help from colleagues regarding past decisions which handled by one person then we applying our knowledge, experience, perceptions and analysis in any taken action to improve our decisions and to secure our competitive advantages in the market.... Also, we are less focused on one perspective in solving problems”.*

Overall, the interview findings showed that Jordanian companies from different sectors which practised reflecting thinking skills focused on particular activities in relation to the type of business. The findings from the interviews supported the questionnaire findings which showed a relatively high usage of strategic thinking skills, i.e. reflecting thinking skills, as was shown in sub-section 5.5.2.1, and its potential to achieve various activities of reflecting thinking skills including those related to strategic thinking.

These findings are consistent with previous literature which indicates that reflective thinking gives managers the ability to see why some choices work and some do not (Pisapia et al., 2005). These results are also consistent with the Karğın and Aktaş (2012) study which found that the majority of Certified Public Accounts trainees in Turkey were involved in strategic thinking skills as well as the study overall mean of the usage of reflecting thinking skills scored 3.88. Moreover, these findings are consistent with those of Sun-Keung and Pisapia (2012) who found that the use of reflecting skills is a function of education training with those who hold higher degrees practising it more than those with lower degrees with a mean of 3.707 in Hong Kong School leaders. Moreover, the findings are consistent with Karğın and Aktaş (2012) who found higher usage of reflecting thinking skills by CPA Certified Public Accounts trainees in Turkey compared to CPAs. In more detail, the use of reflecting skills for CPA trainees (3.88) was higher than for CPAs (3.76).

In the strategic thinking literature many scholars mentioned the benefits of applying reflective thinking skills in organizations. For instance, Sun-Keung and Pisapia (2012) and Pisapia et al., (2009) asserted that reflective thinking skills enable individuals to use experiences, perceptions, and knowledge to understand problems, how to think about the problems and inform actions, and reflective thinking enables them to use experiences and perceptions to make judgments regarding what has happened in the past and is happening in the present to help them to guide their future actions. Moreover, Pisapia et al. (2005) stated that using reflective thinking skills gives managers the ability to see why some choices work and other do not.

- **The usage of reframing thinking skills**

Regarding the use of reframing thinking skills, the findings indicate that the majority of Jordanian companies have a relatively high commitment to the practice of these skills and try to use different ways to map out different strategies needed to solve problems. These ways include creating different possible solutions and perceptions, examining different viewpoints, asking everyone in the company about the changes that happen and could

happen in the company environment, and using discussions with employees from different management levels that hold different beliefs to solve a problem.

The questionnaire findings revealed that the use of reframing thinking skills recorded an overall mean 3.2923. These findings showed that Jordanian companies have relatively high involvement in the use of reframing thinking skills which leads to finding different alternatives to solve a situation. Moreover, the questionnaire measured nine activities related to the usage of reframing thinking skills in publicly quoted companies in Jordan. The use of the activity “trying to create and evaluate a larger number of possible solutions and perceptions when the problem is more complex” recorded the highest score, 4.08, while the lowest rank recorded was in the use of examining a problem by using one viewpoint, with a score of 2.18.

On the other hand, semi-structured interviews showed that the companies from different sectors focus on particular activities in the practice of strategic thinking i.e. reframing thinking skills relevant to their type of business. First, seven participants out of eight asserted that their companies try to create and evaluate a larger number of alternative solutions and perceptions when the problem is more complex as well as using different views to create different alternative strategies needed for the resolution of a problem. Secondly, six out of eight participants mentioned that their companies’ structures permit engaging in discussions freely with staff that have different beliefs to solve problems and examine a problem by using different viewpoints. Five out of eight participants mentioned that their companies sometimes tend to examine the problem first then create plans to solve it before seeking people’s opinions and their companies do not avoid engagement in discussions with critics especially with those who make different assumptions about a situation, and company strategy sometimes seeks to ask everyone in the company what is changing or what is new. Finally, five out of eight participants asserted that their companies do not seek to solve a situation before it has been clearly defined or understood and they do not examine a problem by using one viewpoint if it is more complex.

For instance, in interview a financial manager from a leading industrial company in Jordan mentioned that:

*“... A number of activities have been used in our company to solve a problem or a situation. These include: continuous listening to everyone about what happen in the situation before carrying any decision; understanding complicated and unfamiliar problems from different insights and developing alternatives and ideas concerning the needs of our company”.*

Also, another interviewee, a participant from a services company in Jordan, stated that:

*“...The Company focuses on obtaining information and ideas from different sources externally and internally to solve problem or a situation. These include: obtaining information from different management levels within our company; seeking information from everyone around us about what changes have happened in the company context; use of different perspectives to map out strategies by engaging in discussion with those who have different beliefs”.*

Overall, the interview findings showed that Jordanian companies from different sectors which practised reframing thinking skills focused on particular activities in relation to the type of business. The findings of interviews supported the questionnaire findings which showed a relatively high usage of strategic thinking skills i.e. reframing thinking skills, as was shown in sub-section 5.5.3.1, its potential to achieve various activities of reframing thinking skills including those related to strategic thinking.

In strategic thinking literature many scholars mentioned the benefits of applying reframing thinking skills in organizations. For instance, Pisapia et al. (2005), Bonn (2005), and Bonn (2001) asserted that managers are able to develop unique choices and novel ideas through the application of reframing thinking skills. In addition, it is considered as central to discovering strategies and goals regarding the needs of their



organizations. Pisapia et al. (2008) considered reframing thinking skills as a conscious effort by managers to switch attention across multiple perspectives in order to create new insights and choices for actions; also, these skills allow one to sort through problems and opportunities, to see the problems in ways which enable them to map out different alternative strategies and determine trends before other see them. According to Karğın and Aktaş (2012) the high usage of strategic thinking skills may relate to educational programmes that have been changed in Turkish universities which aimed to teach student basic skills, such as analysing, systems thinking, problem solving, communication skills, creative and critical thinking, interpersonal skills, and technological skills which are considered important skills for individual and organizational success.

The research findings are consistent with Karğın and Aktaş (2012) who found higher usage of reframing thinking skills by Certified Public Accounts (CPA) trainees in Turkey compared to CPAs. In more detail, the usage of reframing skills for CPA trainees (3.79) was higher than for CPAs (3.66).

- **The use of systems thinking skills**

The research findings showed that the mean for all activities of involvement in the use of systems thinking as a cognitive skill of strategic thinking was more than three, except for “look to take action before seeking the cause”. The findings indicate a relatively high level of participation in using systems thinking skills by Jordanian companies. However, the skill of “look to take action before seeking the cause” comes last in ranking, which indicates that this skill is used in a usual repeated daily problems (i.e. everyday operational aspects) and it seems it relates to front-line employees in the company (i.e. lower level management) with less participation in using this skill, especially in complex problems by top and middle level management. That is to say, the research findings indicate that the majority of Jordanian used the skills of systems thinking relatively highly and they believe in its benefits through involvement in all of its activities.

On the other hand, the interview findings revealed that Jordanian companies give importance to external forces that affect the company's performance. The highest reported activity (100%) was "to build strategies that fit with the changing environment". Also, these companies concentrate on foreseeable changes that could happen in the environment and try to find the causes for a situation before they attempt to take any action to solve a situation, recorded by 87.5% (i.e. seven out of eight participants). Moreover, some of the participants in the interviews asserted that they always review the structure of their companies which leads to significant improvements, look for feedback regarding their performance, and look to develop the employees' capabilities to be part of the process of solving problems that may happen. Those three activities were recorded by 75% (six participants out of eight). Finally, the interviewed companies try to understand existing problems by breaking them into parts, examining different parts in the company which will influence the way things are done and try to extract patterns of solution from the available information which was recorded by 50% (four out of eight participants) for the three mentioned above activities. The results of the interviews supported the findings of the quantitative results which show that the majority of Jordanian companies are relatively highly involved in the practice of systems thinking skills, as was shown in sub-section 5.5.4.1.

This finding is consistent with the findings of a number of studies of strategic thinking, such as El-Farra et al. (2008), who found relatively high participation in the use of systems thinking skills amongst Ministry of Health managers in different divisions in Gaza Strip; Psiapia et al.'s (2009) study, which found systems thinking was highly used at four universities in the United States, Hong Kong, Shanghai and Malaysia (this study also found the use of this skill in all locations with small variance in the level of use from country to country); Karğın and Aktaş (2012), who found that system thinking is more used by CPA trainees than by CPAs in Turkey; and Monnavarian et al. (2010), who found that systems thinking (in the Benetton company in Tehran, the capital of Iran) had been adopted in this company and concluded that if the company was willing to get acceptable market share and lead the company strategically it should take into account all the factors of strategic thinking with more concentration on systems thinking skills, accountability

and conflict management. Finally, the benefits of applying systems thinking skills gives managers the ability to see the systems holistically (i.e. holistic views concerning all parts of the organization) such as patterns and interrelationships through understanding of the properties and forces and see patterns and interrelationships which provide choices for actions (Pisapia et al., 2009; Pisapia et al., 2005). In this context, Bonn (2005) proposed in Kaufman (1991, p.69), stated that strategic thinking is characterized as "a switch from seeing the organization as a splintered conglomerate of disassociated parts (and employees) competing for resources, to seeing and dealing with corporation as a holistic system that integrates each part in relationship to the whole".

- **Applying organic structure**

The research findings indicate that the majority of Jordanian companies believe in the benefits of applying an organic structure in their companies through the involvement in all activities of applying organic strategy to implement strategic thinking, such as free motivating interaction and communication and encouraging the generation of new ideas, and free exchange of ideas within the company. Also Jordanian companies believe in taking into account the development of a structure supportive of change and development for the company. These findings are based on the questionnaire results which showed that Jordanian companies are concerned in applying organic structure by motivating interaction and communication and encouraging the generation of new ideas with a score of 3.96, while the activity of considering the development of a structure supportive of change and development for the company scored 3.94. The lowest score recorded is in “fosters ongoing strategic dialogue among top team through applying a reward and compensation system” with a score of 3.67. In this context, the questionnaire findings showed that the use of organic structure scored 3.824 overall. These findings could be related to the earlier results of the practice of reflecting, reframing and systems thinking skills which indicate that Jordanian companies have relatively high involvement in or implementation of an organic structure in their companies.

On the other hand, semi-structured interviews revealed that six out of eight participants (75%) mentioned that they take into account the development of a structure which is supportive of change and the development of their company. Five out of eight participants (62.5%) mentioned that they motivate interaction and communication and encourage the generation of new ideas and their ability to make rapid response to the company's competitors and change in the market demand. Four out of eight participants (50%) develop a collaborative structure to exchange ideas freely within the company. Three participants (37.5%) mentioned that they take into account the operational and strategic necessities for designing a convenient structure for the company as well as developing shared beliefs and visions about the goals and values of the company with others. Finally, two participants (25%) mentioned that they foster ongoing strategic dialogue among top teams through applying a reward and compensation system. In this context one administration manager in an industrial metal company stated that:

*We encourage interaction and communication and extracting ideas within the company and develop shared decisions within all levels of the company to develop innovative strategies which lead to competitive advantages against our competitors in the market.*

As a result, the qualitative findings support the result of the questionnaire findings, as was shown in sub-section 5.5.5.1.

The literature indicated that the nature of organizational structure may encourage or impede the use of strategic thinking within the company, since strategic thinking is concerned with the organic structures in organizations because it is conducive to increasing the connections between departments to foster the practice of strategic thinking, rather than the use of formal structures which will restrain market orientation and the use of strategic thinking processes in organizations in a converse way (Moon, 2012; Bonn, 2005). In the same context, Bonn (2005) observed that the implementation of organic structures in organizations is more conducive to the use of strategic thinking because they allow the process of interaction and communication and encourage the

generation of new ideas, and considered organic organization structures as the way to foster strategic thinking skills within an organization. Moreover, the finding is consistent with the those of Moon (2012) who examined the factors that influence the practice of strategic thinking at an organizational level in Korean companies, and the empirical analysis provide that organizational structure such as centralization and formalization in decision-making and interdepartmental teams influence companies to practise the strategic thinking process which gives more importance to the application of organic structures rather than mechanic structures to encourage connection between departments and to foster strategic thinking. These findings are also consistent with Monnavarian et al. (2010), who found that the organic structure used by the Benetton Company in Tehran the capital of Iran and it is considered one of the important factors related to the practice of strategic thinking and leads the company strategically as well as the acquisition of more market share.

- **The use of environmental analysis**

The research findings showed that the majority of Jordanian companies give more importance to the activities of environmental analysis process as a factor and contributor to the practice of strategic thinking. However, from these results it seems that Jordanian companies believe in the consideration of company strengths and opportunities, with a score of 4.26, followed by the identification of the strategic issues of the company (score 3.99); the lowest score recorded is in “understanding of ambiguities and complexities for the interpretation and evaluation of events” with a score of 3.77. Moreover, the questionnaire findings revealed that the use of environmental analysis scored 3.958 overall. That is to say, the participants of Jordanian publicly quoted companies have a relatively high involvement in or usage of environmental analysis in their companies.

On the other hand, the interview findings showed that companies from different sectors focus on particular activities in their practices of strategic thinking relevant to their nature of business. Seven participants out of eight in the interviews asserted that they take into consideration strengths and opportunities in their companies and study external and

internal variables to increase their performance. Five out of eight respondents try to identify the company strategic issues and understand the ambiguities and complexities in the process of interpretation and evaluation of events in these companies, while four participants out of eight had the ability to understand the dynamics of the external and internal environments. Moreover, the interviews findings showed that the participants from Jordanian publicly quoted companies use different activities to analyse companies' environments with respect to the business sector. For instance, from these activities is giving more importance in using SWOT analysis to study different factors internally and externally which may influence their performance now and in the future based on the information they get from the process or outcomes of SWOT analysis to implement capable strategies which fit with any possible threats to their companies.

For instance, in interview the executive manager from a leading national bank in Jordan stated that:

*“... Environmental analysis is practised in our bank. However, it focuses mainly on applying strengths, opportunities, weaknesses and threats analysis on a continuous basis to understand the dynamics of internal and external environment to achieve competitive advantage which lead to stay and grow in the market by responding to all types and source of foreign and domestic competition because of the stronger competition we face domestically from foreign banks operating in Jordanian market. More focus was given on applying new methods regarding the use of new information technology and upgrading the skills of our bank staff and management as well as mastering new strategies and techniques used in risk management and competition”.*

That is to say, the results of interviews supported the findings of quantitative findings in which Jordanian companies with respect to the business sectors use the process of environmental analysis relatively highly, as was shown in sub-section 5.5.6.1.

This results is consistent with Aldehayyat et al. (2011) who found that external analysis is one of the most commonly used techniques (i.e. strengths, opportunities, weaknesses and threats analysis (SWOT) analysis) and was given more attention by Jordanian hotels companies. This result also is consistent with Monnavarian et al. (2010), who found that environmental analysis is considered to be one of the most important factors relevant to the use of strategic thinking which was highly used by the Benetton company in Tehran through applying different activities, such as the use of company's external and internal analysis, recognition of strategic issues of the company and considering opportunities. Stonehouse and Pemberton (2002) found that two-thirds of investigated companies have vision and mission statements, applying long-term plans and tools of strategic analysis in larger UK SMEs, considered to be an indication of the degree of existence and the practice of strategic thinking by these companies. Moreover, this finding is consistent with those of Monnavarian et al. (2010) and El-Farra et al. (2008), who focused on the importance of analysing the external and internal environment regarding the use of strategic thinking. Moreover, the literature indicated that the greater use of strategic planning tools to analyse the organization's environment would facilitate improved organization learning, enhance the strategic thinking process and would help to reduce the failure rate (Stonehouse and Pemberton, 2002).

- **The use of intelligent opportunism**

The questionnaire made six main statements related to intelligent opportunism in publicly quoted companies in Jordan. The awareness about company strengths and weakness recorded the highest score, 4.24, while the lowest rank was recorded on "considering the input of strategies from lower level management suitable for a changing environment", with a score of 3.54. The questionnaire findings showed that the activities of intelligent opportunism scored 3.994 overall. As a result, these findings revealed that the majority of Jordanian companies are relatively highly involved in and concerned with the use of all activities of intelligent opportunism as a factor of practising strategic thinking in Jordanian companies.

The findings of semi-structured interviews reflect that the participants from different sectors concentrate on particular activities regarding the use of intelligent opportunism. First, the interviews revealed that all participants (i.e. eight participants) are conscious of their companies' strengths and weaknesses and try to find new competitive areas due to the uncertainty of market demands. Secondly, six out of eight participants in the interviews mentioned that they are aware of the main strategic problems which face their companies. Third, four participants out of eight mentioned that they depend on innovative and creative people to identify alternative strategies. Finally, three participants are aware of the participation of middle and lower level management to develop strategies which are suitable for a dynamic changing environment.

An interview with a leading insurance company revealed that their company concentrates on the input of their strategies from creative employees from different management levels within the company.

The participant stated that;

*“.... Our company strategy permits the exchange of information between the three levels of management regarding the exchanging environment to create innovative strategies that may be more suitable to their company which aims to reduce the uncertainty in relation to the changing environment”.*

An interview with a participant (financial manager) from a national bank in Jordan reflects that our strategy is to focus on providing a variety of new services to existing and prospective customers due to the high competition and services offered by domestic banks and new branches investing in Jordan such as Alrajehi Bank branch, HSBC Bank branch, Society General Bank branch and Lebanon Bank branch.

The participant stated that:



*“... To compete in the market the bank developed and added new services which introduced to new and current customers and looking to new competitive area for investments....also, we always give more importance to study the strengths and weakness to track suitable strategies consistent with the bank environment.... Motivating and giving chance to all employees from different levels to share and come up with new strategies related to our business”.*

These findings are consistent with El-Farra et al. (2008) who found that the Ministry of Health in the Gaza Strip always involves employees in their department in the planning process, trying to find new ideas from different sources and with the ability to formulate applicable plans within the available resources within their departments and the ability to change their strategy if unexpected changes in circumstances which take place. The other finding is that managers from different divisions deal with available opportunities efficiently and intelligently. These findings are also consistent with Monnavarian et al. (2010) who found that applying intelligent opportunism as a factor of strategic thinking leads to an increase in the future orientation of the company and faster commitment from other members of the company from different departments as well as leading the organization to think strategically. Moreover, applying intelligent opportunism is considered a very important aspect for organizations because it allows the organization and individual to benefit not only from the intended strategy but also from alternative strategies emerging more related to changing market environment (Yaghoubi et al., 2011; Bonn, 2005; Mintzberg, 1999; Lawrence, 1999; Liedtka, 1998a; Liedtka, 1998b).

#### **6.4.2 The effect of organizational characteristics on strategic thinking practice**

- **The use of reflecting thinking skills**

From the analysis of the use of reflecting thinking skills, the research findings showed a statistically significant correlation between the uses of reflecting thinking skills and the age of the company except for two skills out of ten; namely, “ask “WHY” questions in

order to develop an understanding of problems” and “accept that your preferable beliefs could be mistaken when thinking about what you have done and decisions you have made in solving a problem”. The results also showed that there was a correlation between the use of reflecting skills and the size of the company except for three skills out of ten; namely, “ask “WHY” questions in order to develop an understanding of problems” followed by “try to apply your experience and knowledge to any problem” and “seek to frame problems from different perspectives”. These findings indicate that the age and the size of the company determine the use of reflecting thinking skills.

Moreover, the research findings showed that there were statistically significant differences between the four sectors in terms of the use of reflecting thinking skills except for three skills out of ten; namely, “accept that your preferable beliefs could be mistaken when thinking about what you have done and decisions you have made in solving a problem”, “discover how you could have handled a situation better when thinking about a past decision you have made” and “try to take into account the use of information gathered by experience, in the solution of the problem”. These findings indicate that Jordanian publicly quoted companies from different sectors have different levels of using reflecting thinking skills and relatively did differ significantly in term of using these skills. For instance, the skill, “ask “WHY” questions in order to develop an understanding of problems” is used more by the insurance sector than the industrial and services sectors (see sub-section 5.5.2 regarding other differences in reflective thinking skills). These findings are consistent with Sun-Keung and Pisapia (2012) who found significant differences in the use of these skills between masters in secondary schools, vice-principals of primary schools and senior masters in primary schools. The study did not find any relationships between gender, work experience, age and position in relation to the use of these skills. This finding is also consistent with Karğın and Aktaş (2012) who found that the use of reflecting thinking skills did differ by work position for both certified accountants trainees and certified public accountants; also the finding of the study found no relationship between the use of reflecting thinking skills and age, work experience, education level or gender for both samples.

- **The use of reframing thinking skills**

The research findings showed that there was a correlation between the participants involved in the use of reframing thinking skills and organizational characteristics, such as age and company sector. This indicates that the age of the company did affect or influence the participants' involvement in the use of reframing skills in Jordan companies for five out of nine activities; namely, "engage in discussions with those who hold a different world view and different beliefs", "examine a situation by using various viewpoints", "try to use different points of views to map out different strategies needed for the resolution of a problem", "try to avoid engagement in discussions with critics especially with those who make different assumptions about a situation" and finally, "try first to examine the problem at its face value and create plans to solve it before seeking other people's opinions". That is to say, the age of company has a medium effect or determines the participants' involvement in reframing thinking skills. On the other hand, the research findings showed that there was no correlation between the participants' involvement in reframing thinking skills and the size of the company; that is to say, the size of the company did not affect or determine the participants' involvement in the use of reframing thinking skills. This finding is consistent with Stonehouse and Pemberton (2002) who did not find a relationship between the practice of strategic thinking and the size of the company in medium and small size SMEs companies in the UK but did in larger size companies. Karğın and Aktaş (2012) did not find a statistically significant relationship between the involvement of using reframing thinking skills and age, gender, work experience and education level but did find statistically significant differences between the work position and the use of reframing thinking skills, which means that age, gender, work experience and education level has no effect on the use of reframing skills while the work position affects and determines the practice of reframing thinking skills.

Moreover, the research findings showed that there were weak statistically significant differences between the four sectors (industrial, banking, insurance and services) regarding the participants' involvement in the use of reframing thinking skills. This indicates that the business areas' involvement in the use of reframing thinking skills

differs significantly between the four sectors in Jordanian companies for three activities out of nine; namely, “try to create a pre-conceived solution to a situation before it has been clearly defined or understood” this difference is more noticeable in the services sector than other sectors; examine a problem by using one viewpoint and try first to examine the problem at its face value” which is more noticeable in the industrial sector than the banking and insurance sectors, followed by the services sector, and finally, “create plans to solve it before seeking other people’s opinions” which is used more by the services sector than the other sectors. That is to say, the nature of the business sectors did not affect the use of reframing thinking skills in Jordanian companies.

- **The use of systems thinking skills**

The research findings showed that there was a small correlation between the participants involved in the use of systems thinking skills and organizational characteristics, such as age and size of the company. This indicates that the age of the company has a small effect on participants’ involvement in the use of systems thinking skills in Jordanian companies except for five out of twelve skills; namely, “try to think about how different parts of the company influence the way things are done”, “search for specific feedback on your company’s performance”, “seek to extract patterns or rules from the available information”, “seek to understand how the individuals in the situation are interrelated to each other”, and “try to look for changes in the company’s structure that lead to significant enduring improvements”. That is to say the age of the company has a small effect on the use or involvement in the practice of systems thinking skills in Jordanian companies. On the other hand, the research findings showed that there was weak correlation between the participants’ involvement in systems thinking skills and the size of the company. That is to say, the size of the company did not affect or determine the participants’ involvement in the use of systems thinking skills in Jordanian companies except for two out of twelve skills; namely, “search for specific feedback on your company’s performance” and “seek to extract patterns or rules from the available information”. As a result neither age nor size of the company affected or determined the involvement in the use of systems thinking skills in Jordanian companies.

The research findings showed that there were relatively high statistically significant differences between the four sectors (industrial, banking, insurance and services) regarding the participants' involvement in the use of systems thinking skills. This indicates that the business areas involvement in the use of systems skills differs significantly between the four sectors in Jordanian companies for nine out of twelve activities; namely, "try to think about how different parts of the company influence the way things are done", more noticeable in the banking than the other sectors; "search to identify external environmental forces that affect your work", more noticeable in the industrial than the insurance and the services sector; "try to focus on breaking the problem into parts before defining it", used more by the industrial sector than the insurance and the services sector; "search for specific feedback on your company's performance", used more by the services than the banking and the insurance sectors; "seek to extract patterns or rules from the available information", used more by the industrial than the services sector, and by the services more than the banking and the insurance sectors; "focus on searching for the cause before taking any action", noticeable more in the industrial than the insurance and services sectors; "seek to understand how the individuals in the situation are interrelated to each other", used more by the services than the banking and industrial sectors; "look to take action before seeking the cause", noticeable more in the industrial than the other sectors; and, finally, "try to look for changes in the company's structure that lead to significant enduring improvements", which is used more by the banking than the services sector. That is to say, company sector (industrial, banking, insurance, services) did affect or determine the participants involvement in the use of systems thinking in relation to the different degree of using these skills within the sectors of business.

This finding is consistent with Karğın and Aktaş (2012) who found that the use of systems thinking skills did differ by work position for both certified accountants trainees and certified public accountants. Also the finding of the study found no relationship between the usage of systems thinking skills and the age, work experience, education level or gender for both samples.

- **The use of organic structures**

The research findings showed that there is a positive significant relationship between the age of the company and the use of an organic structure except for three activities out of seven (i.e. an organic structure activities); namely, taking into account the operational and strategic necessities for designing a convenient structure for the company, considering the development of a structure supportive of change and development for the company, and the ability to make rapid responses to the company's competitors and to changes in market demand. That is to say, there is relatively positive medium correlation or association between the age of the company and the use of organic structure. As a result, the research findings showed that the age of the company has a medium positive effect on the use of organic structure in the company in five organic structure activities. On the other hand, the findings showed no statistically significant relationship or correlation between the size of the company and the use of organic structure activities in Jordanian companies, which indicates that the size of the company did not affect or influence the use of organic structure nor affected their level of participation in strategic thinking.

The research findings also showed that there were no statistically significant differences between the four sectors (industrial, banking, insurance, services) in terms of the use of an organic structure except for three activities out of seven; namely, "motivates interaction and communication and encourages the generation of new ideas" which is used more noticeably by the banking than the other sectors, "develops a collaborative structure which leads to the free exchange of ideas within the company", which is used more by the industrial than the other sectors, and "fosters ongoing strategic dialogue among top team through applying a reward and compensation system"; this activity is used by the banking and service sectors. That is to say, the four business sectors have a weak effect on the application of organic structures in Jordanian publicly quoted companies. In this context, Moon (2012) suggested that organization structure, such as applying formalization and centralization in Korean companies in decision-making structure, and interdepartmental teams, determines a company's strategic thinking.

- **The use of environmental analysis**

The research findings showed that there was a positive relationship between the age of a company and the use of environmental analysis as a factor in the practice of strategic thinking. Three activities of environmental analysis out of five had a positive relationship with company age; namely, “recognition of internal and external analysis of industry”, “ability to understand the dynamics of the external and internal environments” and “understanding of ambiguities and complexities for the interpretation and evaluation of events”. However, it seems that the size of the company has no relationship with the use of environment analysis except for one positive activity, namely, “understanding of ambiguities and complexities for the interpretation and evaluation of events”. On the other hand, the research finding showed that the nature of business (industrial, banking, insurance and services sector) affects the environmental analysis as a factor of strategic thinking for all activities; namely, “consideration of company strengths and opportunities”, which is used more by the industrial sector than the other sectors, followed by “recognition of internal and external analysis of industry”, which is used more by the industrial than the insurance and banking sectors, then “ability to understand the dynamics of the external and internal environments”, which is used more by the industrial than the insurance and services sector. Moreover, “identification of the strategic issues of the company” is used more by the industrial than the insurance and services sectors and, finally, “understanding of ambiguities and complexities for the interpretation and evaluation of events” is used more by the banking than the industrial and insurance sectors.

As a result, there is a medium positive correlation between the age of a company and environmental analysis activities as well as no correlation between the size of a company and the usage of environmental analysis. That is to say, the age of the company has a relatively medium positive effect on the use of environmental analysis in three activities out of five which affect the level of participants’ involvement in the use of environmental analysis. Moreover, the findings showed that the size of the company did not affect the use of environmental analysis. The findings show the company sectors (nature of

business) affect the use of environmental analysis for all activities with different degrees of usage of environmental analysis by the four sectors, as mentioned above. This indicates that the participants involved in strategic thinking differ significantly in term of the use of environmental analysis activities across the four business sectors in Jordanian publicly quoted companies.

This finding is consistent with Moon (2012) who found that the internal (i.e. organizational culture, structure and resources and competences) and external variables (i.e. market and technological turbulence) has a positive influence on the organizations to practice strategic thinking such as organizational culture and organizational structure. The finding also is consistent with El-Farra et al. (2008) who found significant differences between the divisions (i.e. central directorates, hospitals, primary health) in the Ministry of Health in Gaza Strip and the use of internal and external environmental analysis. Moreover, Stonehouse and Pemberton (2002) found that large UK services SMEs companies are more likely to plan over five years (i.e. planning over a longer time horizon).

- **The use of intelligent opportunism**

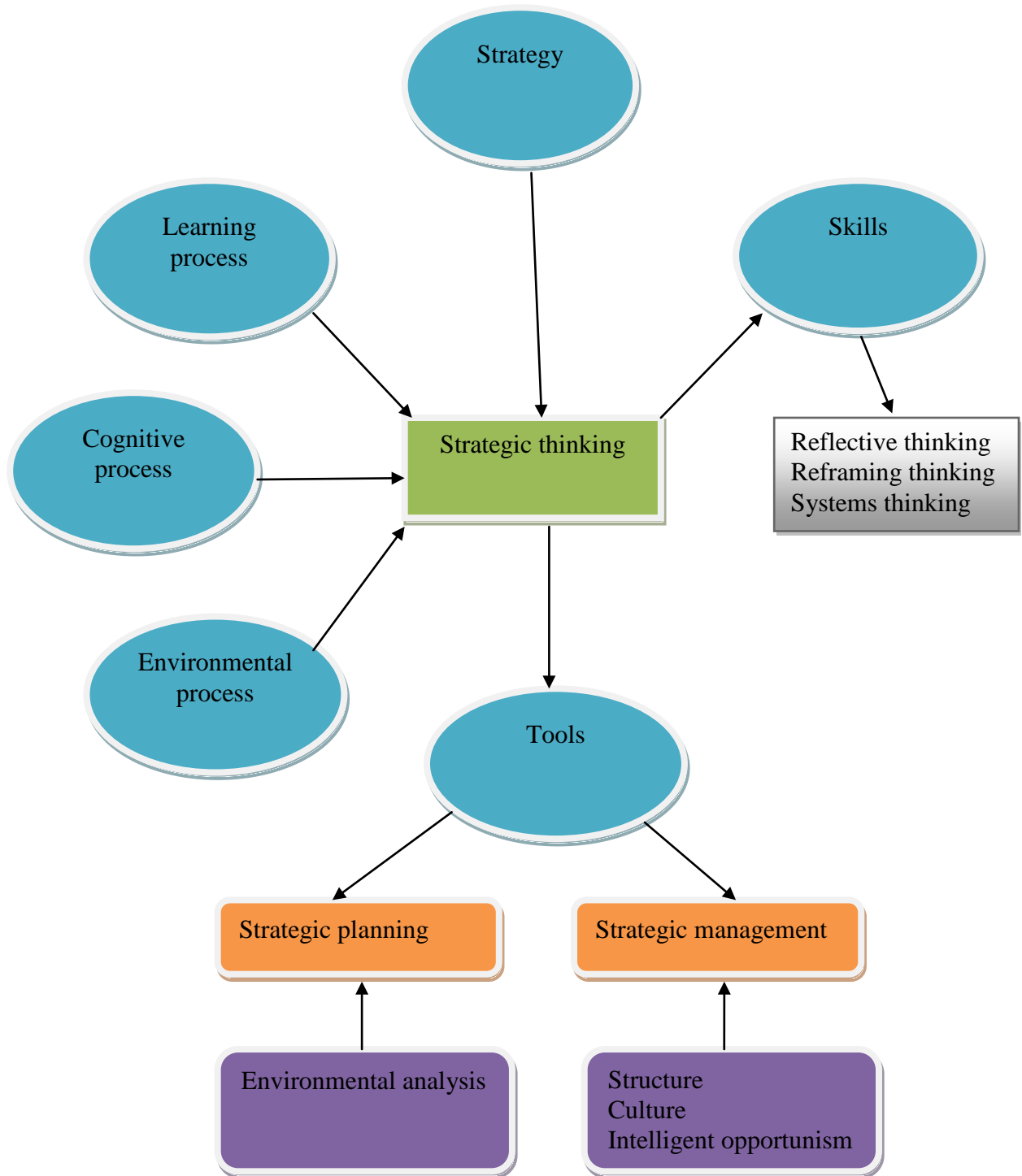
The research findings show no association between the age of the company and the use of intelligent opportunism except for two activities out of six; namely, consciousness about the main strategic problems of the company. Regarding this activity there were large differences between the actual and expected count for some cells of those companies that use intelligent opportunism activity (i.e. statistically significant differences do exist between the six categories of age in term of the use of this activity as a factor of strategic thinking process) that aged 10-19 years, 20-29 years, 30-39 years and 50 years and over. This result means that there was a focus on using this activity in old companies more than the younger ones. In terms of the activity of considering the input of strategies from lower level management suitable for a changing environment, there were large differences between the actual and expected count for some of cells of those companies that use intelligent opportunism activity (i.e. statistically significant differences do exist between



the six categories of age in term of the use of this activity as a factor in the practice of strategic thinking) that aged 10-19 years, 20-29 years, 30-39 years and 50 years and over. This result means that there was more focus on using this activity in older companies than younger ones. Moreover, the research findings showed that there was no statistical relationship between the size of a company and the activities of intelligent opportunism. On the other hand, the research findings showed that there were statistically significant differences between the four sectors regarding the use of intelligent opportunism. This indicates that the business areas involvement in the use of intelligent opportunism activities differs significantly between the four sectors in Jordanian publicly quoted companies for three activities out of five; namely, “awareness of participation of middle managers” is more noticeable by the banking than the other sectors, “awareness about company strengths and weaknesses” is used more by the services than the industrial and insurance sectors, “identifying alternative strategies from people who are more innovative and more creative” is used more by the industrial and services sectors. As a result, the age and size of a company did not affect or determine the use of intelligent opportunism, while the company sector has a medium effect in determining the use of intelligent opportunism.

Finally, this study introduced model derived from the research finding representing the current strategic thinking implementations in Jordanian publicly quoted companies in the four sectors. The model may be generalised to other organisations in Jordan and to other developing countries. Figure 7.1 shows and summarises this proposed model.

**Figure 7:** Summary of the study's proposed model



## **6.5 Barriers associated with the practice of strategic thinking**

This section introduces the barriers to strategic thinking which influence the extent of the practice of strategic thinking in Jordanian companies as well as the relationship with the barriers which influence the extent of practice of strategic thinking.

It has been found from the questionnaire findings that the most effective barriers and impediments to practising strategic thinking in Jordanian companies were “insufficient programmes introduced to employees to train them in thinking strategically”, “inadequate training programmes in order to become strategic thinkers”, “inadequate incentive programmes to explore forward thinking and creativity” and “unclear benefits of strategic thinking processes to your company”. These barriers scored the highest means within this study, while the lowest score of barriers experienced by Jordanian companies was for “insufficient capabilities involved in environmental scanning for opportunities and threats”. Moreover, the questionnaire findings revealed that the barriers experienced in Jordanian companies recorded an overall mean 3.813. That is to say, Jordanian publicly quoted companies experience a relatively high level of barriers that affect, prevent or impede the practice of strategic thinking, which may relate to the low level of real commitment of top management in these companies and may relate also to the lack of management to create an atmosphere that leads to increased creativity in their companies, to introduce suitable and sufficient training programmes for their staff (i.e. internal and external analysis of companies environment and carrying out SWOT analysis regularly) and to increase incentive programmes to explore forward thinking. The findings of this study are consistent with the findings of studies conducted in developed countries and some less developed countries in the Arab world, especially Jordan, regarding the barriers which impede or prevent the practices of strategic thinking in organizations. This result is relatively consistent with the finding of number of studies in strategic thinking such as those of Moon (2012), Al-Rousan and Qawasmeh (2009), Acur and Englyst (2006), Abu Khadra and A.Rawabdeh (2006), Mostafa (2005), Greated (2002), and Bonn (2001), who in their studies found several barriers experienced in the practice of strategic thinking.

Greatz (2002) and Bonn (2001) suggested various solutions to overcome the barriers that impede or prevent the process of experiencing strategic thinking and to enhance organizations' strategic abilities to practise strategic thinking processes, such as: recognition or encouragement of those who hold new ideas; establishing a reward system that supports and encourages creative thinking across organizations; creating a supportive environment that allocates space, time and funds to good ideas; providing suitable training programmes to develop creative thinking and team work skills; and the modelling of desired behaviours by top level management at every level of the company to encourage employees' creativity and ensure that strategic thinking occurs widely across the company.

Mostafa (2005) conducted a study of 100 top listed companies in Egypt from different sectors (i.e. banks, hospitability, industrial) to study the factors which affect organizational creativity and innovativeness. The study found different barriers were practised by Egyptian companies, such as low commitment (i.e. not feeling involved) to organization and lack of management support, lack of communication, fear of failure, destructive criticism, management turn-down of suggestions, and time and work pressure, as well as the fear of change which was one of the main barriers preventing creativity in the working environment. Moreover, the finding of this study is relatively consistent with Abu Khadra and A.Rawabdeh (2006) who conducted a study concerning the development of learning organization concept (LOC) in Jordanian industrial companies. The study indicates that Jordanian companies can apply the LOC by using different constructs such as supportive organizational culture, applying horizontal organizational structure, knowledge management systems, reward and recognition systems and performance evaluation systems.

In terms of insufficient capabilities involved in environmental scanning for opportunities and threats and insufficient and inadequate training programmes introduced to employees to train them in thinking strategically, Al-Rousan and Qawasmeh's (2009) study found that the banking sector in Jordan faced different barriers which impeded their

development in the market, such as SWOT analysis still not being commonly used by Jordanian banks and not executed on a continuous basis, and barriers related to training programmes to develop staff and management in Jordanian banks to upgrade their skills.

The semi-structured interviews revealed that there are a number of barriers which impede the practice of strategic thinking in Jordanian publicly quoted companies from different business sectors. Some of these barriers were similar to and supported the quantitative results.

The semi-structured interviews showed that the participant varies for different barriers; for instance, 75% of participants (i.e. six out of eight participants) mentioned that the barriers include: insufficient integration at all levels of company management and inadequate incentive programmes to explore forward thinking and creativity in which they considered that both mentioned barriers are those which most impede the practice of strategic thinking in their companies, 62.5% of participants (i.e. five out of eight participants) stated that the problems are associated with insufficient programmes introduced to their employees to be trained in thinking strategically, and unclear benefits beyond the practice of strategic thinking processes in their companies. Moreover, 50% of participants (i.e. four out of eight participants) mentioned that their companies' structures impede the practice of strategic thinking. Finally, 37.5% of participants (i.e. three out of eight participants) asserted that the application of strategic thinking requires more time which affects the current work of their companies' staff; the incentive programmes are inadequate to explore forward thinking and creativity; and moreover the capabilities involved in environmental scanning for opportunities and threats are insufficient.

For instance, one participant from a financial services company stated that:

*“.... One of the greatest barriers which we face and impedes the practice of strategic thinking in our company is the lack of connection between top management and the staff of the company in different management levels which discourages the employees' interactions to exchange ideas and prevents creative thinking”.*

Another participant from the department of marketing of a leading industrial company stated that:

*“...Our company structure does not support the involvement of other levels of management in the process of strategic thinking and everything is treated by top management which is considered as risk avoiders which mean that they do not believe in the abilities of their staff to come up with good ideas which increase the company performance.... Compensation and rewards are only paid to top management teams and no reward or compensation paid to staff in the other levels except the company pay for extra work hours”.*

Moreover, the findings show weak negative correlation between the age and size of the company and the barriers influencing the practice of strategic thinking in Jordanian companies. That is to say, the age and size of the company did not affect the barriers which impede the practice of strategic thinking process, and the negative weak correlation of both age and size of the company and the barriers that influence the practice of strategic thinking is related to smaller age and size Jordanian companies. Moreover, the findings show that there are weak statistically significant differences between the four sectors (industrial, banking, insurance, services) and barriers to the practice of strategic thinking by Jordanian publicly quoted companies; namely, “insufficient programmes introduced to employees to train them in thinking strategically”, which is noticeable more in the insurance than the industrial and services sectors. “Inadequate incentive programmes to explore forward thinking and creativity is noticeable” more in the banking than the industrial and insurance sectors. “Insufficient capabilities involved in environmental scanning for opportunities and threats” is more noticeable in the services than the industrial and banking sectors. The finding of this study is consistent with Mostafa (2005) who found statistically significant differences between age of participants, gender, education level and creativity and innovation and nature of business (i.e. banks, hospitality, and industrial) in 100 top listed Egyptian companies.

## 6.6 Summary

This chapter provides a discussion about the findings that have emerged from an analysis of the current study in relation to the existing literature regarding the strategic thinking concept to achieve the four objectives of the current research. These objectives, as presented previously, include: examining the familiarity of the concept and purpose of strategic thinking in Jordanian publicly quoted companies; examining the extent of practising strategic thinking in Jordanian publicly quoted companies; investigating the organizational characteristics (company age, company size, company sector) in Jordanian publicly quoted companies which influence the extent of the practice of the strategic thinking process; and examining the barriers that are likely preventing the practice of the strategic thinking process in Jordanian publicly quoted companies.

However, the previous discussions indicate that:

The knowledge of Jordanian publicly quoted companies about the concept and the purpose of strategic thinking is high.

The knowledge of Jordanian publicly quoted companies about the concept and the purpose of strategic thinking has a positive relationship with organizational characteristics (age, size of the company and nature of business). This includes:

- A strong relationship between age of the company and familiarity with the concept and purpose of strategic thinking in publicly quoted companies.
- No relationship between the size of the company and familiarity with the concept and purpose of strategic thinking in publicly quoted companies.
- Medium differences across the four sectors (age, size of company, nature of business) regarding familiarity with the concept and the purpose of strategic thinking in publicly quoted companies.

The extent of the practice of the strategic thinking process has a positive relationship with organizational characteristics (age, size of the company and nature of business). This includes:

- Strong positive relationship between the age of the company and the extent of the practice of strategic thinking process in Jordanian publicly quoted companies.
- Small positive relationship between the size of the company and the extent of the practice of strategic thinking process in Jordanian publicly quoted companies.
- Strong positive relationship between the organizational characteristics and the extent of the practice of strategic thinking process in Jordanian publicly quoted companies.

Moreover, the previous discussions reflected that:

- Small significant differences exist in the extent of experienced strategic thinking implementation barriers across the four sectors of business. Moreover, the analysis reflected that small negative significant differences exist in the extent of the strategic thinking implementation barriers experienced across the age and size levels in Jordanian publicly quoted companies.

The conclusions and implications regarding the research findings about the strategic thinking process in Jordanian publicly quoted companies will be presented in the next chapter.



**CHAPTER SEVEN**  
**CONCLUSIONS AND IMPLICATIONS**

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## **Chapter Seven**

### **Conclusions and Implications**

#### **7.1 Introduction**

This chapter is divided into five main sections. Section 7.2 provides a summary of the main findings of the research which emerged from the data analysis for each objective of this research in Chapter Five and the discussion of the findings in Chapter Six. Section 7.3 provides the contributions to knowledge made by this research. The limitations of this research are discussed in section 7.4. Then areas for further research are presented in section 7.5. Finally, section 7.6 presents recommendations for the companies drawn from the research findings.

#### **7.2 Summary of the main findings of the research**

This section provides a summary of the main findings of this research which relate to the extent of knowledge of and familiarity with the concept and purpose of strategic thinking (which is relevant to the first objective); the extent of the practice of strategic thinking (which is relevant to the second objective); the relationship between organizational characteristics and the extent of knowledge of and familiarity with the concept and purpose of strategic thinking, as well as the relationship between organizational characteristics and the extent of strategic thinking practice (which is relevant to the third objective); and the barriers associated with the practice of strategic thinking (which is relevant to the fourth objective).

##### **7.2.1 The extent of knowledge of and familiarity with the concept and purpose of strategic thinking**

The research findings showed that the majority of surveyed Jordanian publicly quoted companies from different sectors which practised strategic thinking had good knowledge of and were familiar with the concept and purpose of strategic thinking (i.e. 112 of respondent companies out of 261). 43.9% of the respondents were familiar with the

concept and purpose of strategic thinking. This suggests that companies in Jordan believe in the value and the importance and returns of strategic thinking. This finding emerged from participants' reporting of knowledge and familiarity with the concept and purpose of strategic thinking (i.e. quantitative and qualitative findings) such as; strategic thinking helps to gain or strengthen competitive advantage, draw a picture of their companies by connecting the past, present, and future, their knowledge that strategic thinking is included in strategy formulation and implementation and in determining the strategic performance of the company. Moreover, they confirmed their belief that strategic thinking is connected with solving strategic issues and conceptualizing the future of their companies and, finally, the process of strategic thinking must take place at all levels of their companies.

### **7.2.2 The extent of the practice of strategic thinking in Jordanian publicly quoted companies**

The research has provided empirical evidence that Jordanian companies practise strategic thinking to a greater or lesser extent through the use of various skills. This finding emerged from participants reporting the importance of strategic thinking and its potential to achieve various activities (i.e. strategic thinking skills) for their companies. However, a number of critical findings have emerged from this research relating to the extent of the practice of strategic thinking in Jordanian publicly quoted companies.

A crucial finding is related to the use by Jordanian companies of reflective thinking skills such as: use of experience, knowledge and the information gathered to solve difficult problems; reviewing past decisions by seeking help from professionals and colleagues and dealing with new situations to improve their future actions and tendency to solve problems from different perspectives. This finding is consistent with Pang and Pisapia (2012): that the use of reflecting thinking skills is a function of education and training, with those who hold higher degrees practising it more than those with lower degrees.

One of the important findings is related to the activities of reframing thinking skills. The findings indicate that Jordanian companies have high involvement in the use of various

activities of reframing skills, such as: seeking different alternatives or possible solutions and perceptions when the situation is more complex; examining different viewpoints; and tending to ask everyone about the changes which happen and could happen in the companies' environment through using discussions with employees who hold different beliefs. Moreover, the research finding showed that Jordanian companies listen continuously to everyone regarding a situation before carrying any discussion; focus on understanding unfamiliar and complicated problems from different insights; and obtain information and ideas from different sources externally and internally to seek solutions to their companies' problems.

In Jordanian publicly quoted companies from various sectors, the factor of systems thinking is relatively greatly used in the strategic thinking process. However, the results suggest that the majority of Jordanian companies surveyed build strategies which fit with the changing environment by identifying external forces and searching how they occur and how they affect their performance before taking any action. There is a review of companies' structure which leads to significant improvements. Furthermore, Jordanian companies seek to develop the capabilities of their employees to solve a problem when they face a problem needing resolution.

One of the crucial findings which is used to a lesser extent is related to seeking to take action before knowing the cause. This suggests that this skill may be used by frontline managers (i.e. lower level management) to solve routine problems.

In Jordanian publicly quoted companies, the factor of applying organic structure is applied in the strategic thinking process. These companies encourage interactions and communication and extracting ideas and developing shared decisions at all levels to develop innovative strategies that lead to competitive advantage. Moreover, those companies develop supportive structures which are considered a significant process in the use of strategic thinking which leads to the free of exchange of ideas, the fostering of strategic dialogue, the developing of shared beliefs and visions about goals and values of their companies with others and increasing their ability to foster responses to competitors.

One of the crucial findings is related to the process of environmental analysis. The findings indicate that Jordanian companies pay attention to strengths and opportunities, identifying the strategic issues of the companies and pay attention to their internal and external analysis. Moreover, the research findings provided empirical evidence that environmental analysis in Jordanian companies is important for achieving the process of strategic thinking through using various methods such as SWOT analysis to study various factors internally and externally which influence their performance; building and implementing capable strategies which fit with the company's environment to achieve competitive advantages; avoiding possible threats which affect their performance in the market; using information technology and strategic techniques in risk management; and managing competition with respect to the various business sectors.

One of the crucial findings of the research, which has emerged from the analysis and discussions, is that Jordanian companies are highly involved in the application of intelligent opportunism activities, particularly awareness about their companies' strengths and weakness, and developing and creating innovative alternative strategies through exchanging information across departments at all levels within the companies regarding a dynamic and changing environment.

### **7.2.3 The effects of organizational characteristics on knowledge of and familiarity with the concept and purpose of strategic thinking**

Two of the key findings are a medium positive influence or relationship between the age of the company and the knowledge of and familiarity with the concept and purpose of strategic thinking, while no relationship or influence exists between the size of the companies and the extent of the knowledge of and familiarity with the concept and purpose of strategic thinking in Jordanian companies. Moreover, this research examined the influence of business sectors (industrial, banking, insurance and services) on the knowledge of and familiarity with the concept and purpose of strategic thinking. The result indicates that the nature of the business has a small effect or influence on the extent

of knowledge of and familiarity with the concept and purpose of strategic thinking in Jordanian companies.

#### **7.2.4 The effects of organizational characteristics on the practice of strategic thinking**

One of the critical findings of this research which emerged from the analysis and discussions is the influence of company age on the extent of the practice of reflective thinking skills as a factor in practice of the strategic thinking process. The study found a strong positive relationship between the age of a company and the extent of the use of reflective thinking skills. This suggests that older Jordanian companies are more likely to engage in the use of reflective thinking skills in for seven reflective skills, whereas there is one negatively correlated skill; namely, “acknowledge the limitations of your own perspective”, which suggests that this skill is more likely to be used by smaller Jordanian companies. On the other hand, there is a weak relationship between the size of a company and the use of reflecting skills and a weak negative relationship between the size of a company and the use of reflecting skills. This suggests that larger Jordanian companies are more likely to engage in four reflecting skills, while three negative skills are more likely to be used by smaller Jordanian companies. The findings indicate that strong differences exist between the four sectors regarding the use of reflecting thinking skills as a factor in the practice of strategic thinking in Jordanian publicly quoted companies.

The use of reframing thinking skills does not relate to the size of company, while the age of the company has a medium positive relationship with the use of reframing thinking skills except for one negative relationship, namely, “try first to examine the problem at its face value and create plans to solve it before seeking other people’s opinions”, found in younger companies. Moreover, the research examined the influence of business sector on the practice of reframing thinking skills. The result indicates that small differences exist between the four sectors regarding the practice of reframing thinking skills as a factor in the practice of strategic thinking.

The research provides empirical evidence that the age of a company has a small positive relationship with the practice of systems thinking skills while the size of the company has a weak positive relationship on the practice of systems thinking skills. The evidence is that older companies are more likely to engage in systems thinking skills as a factor in the practice of strategic thinking. On the other hand, strong differences were found between the four sectors and the practice of systems thinking skills.

In terms of the application of an organic structure, the research found a medium positive relationship between the age of the company and the application of an organic structure in Jordanian companies, whereas no relationship was found between the size of the company and the application of an organic structure. On the other hand, small differences were found between the four sectors (industrial, banking, insurance and services) and the application of an organic structure as a factor in the practice of strategic thinking.

One of the findings is that there is a medium positive relationship between the age of a company and the use of environmental analysis, while there is no influence of the size of the company on the use of environmental analysis except for one activity, namely, the understanding of ambiguities and complexities for the interpretation and evaluation of events. Moreover, the research found a strong influence or differences in the nature of a company's business on the use of environmental analysis as a factor in the practice of strategic thinking.

The research examined the nature of business, age and size of the company and the practice of intelligent opportunism. The findings indicate medium differences between the four sectors (industrial, banking, insurance and services) regarding the practice of intelligent opportunism and a weak relationship between the age of the company and the extent of intelligent opportunism practice in Jordanian companies into statements found in older companies; namely, consciousness about the main strategic problems of the company and considering the input of strategies from lower level management suitable for a changing environment. On the other hand, there was no relationship or influence



between the size of the company and the extent of intelligent opportunism practice as a factor in the practice of the strategic thinking process.

### **7.2.5 The barriers associated with the practice of strategic thinking**

The critical result is that all barriers which may influence the practice of the strategic thinking process were experienced relatively highly by Jordanian companies. Moreover, there is a small negative relationship between the age of the company and the barriers which influence or prevent the practice of strategic thinking; namely, “unclear benefits of strategic thinking processes for your company”; “inadequate incentive programmes to explore forward thinking and creativity”; and “inadequate training programmes in order to become strategic thinkers”, which are found in younger Jordanian companies, whereas the barriers which influence the practice of strategic thinking do not relate to the size of the company except for two negative items; namely, “unclear benefits of strategic thinking processes to your company” and “inadequate incentive programmes to explore forward thinking and creativity”, which is found in smaller Jordanian companies. On the other hand, the research examined the influence of the nature of business (industrial, banking, insurance and services) on the barriers which influence or prevent the practice of strategic thinking. The finding indicates small differences between the four sectors regarding the barriers which influence the practice of strategic thinking processes in Jordanian companies.

### **7.3 Contributions to knowledge**

This research has provided a number of contributions to the literature on the practice of strategic thinking.

Firstly, this study is the first to investigate the concept of strategic thinking, its purpose and practices, and the barriers which prevent the process of strategic thinking in Jordanian publicly quoted companies.

Secondly, this study provides empirical evidence about the nature of the relationship between organizational characteristics (age, size of company, nature of business, and business sector) and the extent of knowledge of and familiarity with the concept and purpose of strategic thinking, as well as the extent of the practice of the strategic thinking process, in Jordanian companies.

Thirdly, this study has investigated the practice of strategic thinking, its concept and purpose in Jordan. The vast majority of empirical studies in the field of strategic thinking have been conducted in developed countries (e.g. Karđin and Aktař, 2012; Moon, 2012; Pang and Pisapia, 2012; O'Regan et al., 2010; Pisapia et al., 2009; Pisapia et al., 2005; Greatz, 2002; Stonehouse and Pemberton, 2002 and Bonn, 2001), while few studies have been undertaken in the Middle East (e.g. El-Farra et al., 2008 and Mostafa, 2005), and there are no empirical studies which have been undertaken in Jordan regarding the practice of strategic thinking.

Fourthly, this research provides empirical evidence of some important aspects regarding the practice of strategic thinking processes, including the nature of knowledge of and familiarity with the concept and purpose of strategic thinking, the use of reflective thinking skills, reframing thinking skills, systems thinking skills, the application of organic structures, environmental analysis and the use of intelligent opportunism.

Fifthly, it provides empirical evidence about the barriers associated with the practice of the strategic thinking process and its relationship with organizational characteristics (age, size of company and business sectors).

Sixthly, this research used quantitative and qualitative methods to collect primary data in order to develop an understanding and create a clear picture of strategic thinking and its importance. This is considered a contribution to knowledge in the Jordanian context since every time a researcher collects primary data, a new contribution is added to overall social knowledge (Hox and Boeije, 2005).

Seventhly, this is the first study of the barriers associated with the practice of the strategic thinking process in Jordan, particularly in Jordanian companies from different sectors (i.e. industrial, banking, insurance, services sector), according to the knowledge of the researcher.

Eighthly, this research has found out the views of managers at different management levels in Jordanian publicly quoted companies.

#### **7.4 Limitations of the research**

1- As mentioned earlier, the research descriptive and a cross-sectional survey strategy was chosen (see sub-section 3.5.2). This did not provide the researcher with the opportunity to explore in more depth some of the areas related to the practice of strategic thinking in Jordanian companies. However, future research can be conducted by using in-depth types of study that focus on a small number of respondents as well as a smaller number of these companies. According to O'Shannassy (2000), to study strategic thinking in different companies, the study must take a sample of four to six companies from each industry or 40 to 60 subjects, which is consistent with the limitations of this research.

2- To the best of the researcher's knowledge there has been a lack of comment in the literature and studies conducted investigating the topic of strategic thinking which is considered to be a new concept in the Arab world, including Jordan.

3- The data obtained from the questionnaire suggested the use of nonparametric methods. Non-parametric methods do have some disadvantages. For instance, these methods can be less powerful compared to their parametric counterparts and sometimes are less likely to detect the ability of a test to find effects or differences that truly exist. For example, if we use a non-parametric test and a parametric test on the same data, and those data meet the appropriate assumptions, then a parametric test will have greater power to detect an effect than a non-parametric test (Field 2009).

4- This study is limited by its concentration on Jordanian publicly quoted companies listed on the Amman Stock Exchange. This may affect negatively the generalizability of findings to other types of businesses which operate outside the Amman Stock Exchange (e.g. family businesses, Qualifying Industrial Zone (QIZ)).

### **7.5 Areas for further research**

Although the research has contributed to an understanding of the practice of strategic thinking, future research is recommended and should focus on a number of issues:

- This study is focused on a number of factors related to strategic thinking practice in Jordanian publicly quoted companies (i.e. listed shareholding companies in Jordan), such as the practice of reflective thinking skills; reframing thinking skills; systems thinking skills; application of organic structure; use of environmental analysis; and the use of intelligent opportunism. Further research could concentrate on the practice of strategic thinking in other types of organization, such as government organizations and family owned businesses in Jordan.
- Organizational structure and culture, as a factor of successful strategic thinking practice, requires further research. It is important to assess its suitability, especially in Arab countries and particularly in Jordan where the situation of organizational culture and organizational structure is critical to the practice of strategic thinking and where it has an effect on the environments of Jordanian companies.
- The research results regarding the extent of the practice of strategic thinking indicate that there is a need for further research focused on the following issues:
  - a) The value of involvement of all levels of company management in identifying different strategies suitable for changing environments.
  - b) The value of introducing sufficient programmes and reward systems to explore forward thinking and creativity.

- It was found that there was little empirical research and few theoretical studies focusing on the practice of strategic thinking processes, including the practice of reflective thinking skills; reframing thinking skills; systems thinking skills; the application of an organic structure; use of environmental analysis; and the use of intelligent opportunism. Consequently, further research is needed on the practice of strategic thinking, with more focus on the association between the practice of strategic thinking and organizational characteristics.
- This research is focused on using a mix of quantitative and qualitative methods which is unusual in the majority of similar studies in Arab countries. In order to maintain the effectiveness of future studies, researchers should be encouraged to use both quantitative and qualitative methods.
- This research concentrated only on studying organizational characteristics of Jordanian companies and the extent of the practice of strategic thinking. Consequently, the relationship of personal characteristics of participants and the extent of the practice of strategic thinking by Jordanian companies could be an area for further research.
- This research focused only on studying strategic thinking in Jordanian publicly quoted companies which are registered on the ASE. Consequently further research is needed to be applied in other industries outside the ASE, such as studying the extent of strategic thinking in industrial cities which operates in Jordan (i.e. Qualifying Industrial Zones) (see Appendix 7: Jordan general overview) or family business firms.

## **7.6 Recommendations for Jordanian companies arising from the research findings.**

This section provides recommendations for Jordanian companies based on the findings which emerged from the analysis and discussions of this research. It is hoped that these recommendations will be useful and will contribute to a better understanding of the development of the strategic thinking process and tackle the barriers which impede or prevent the practice of strategic thinking in Jordanian companies.

- 1- It is important that Jordanian publicly quoted companies pay more attention to the participation and engagement of the three levels of management in sharing in the activities of the practice of the strategic thinking process.
- 2- Jordanian publicly quoted companies could develop alternative strategies regarding the changing environment by paying more attention to the identification of organizational structures and cultures which enhance the practice of strategic thinking in their companies.
- 3- It is important that Jordanian publicly quoted companies pay more attention to the process of exchanging ideas and sharing knowledge and team work through building effective communication systems which improve and enhance the performance of analysing the internal and external environment of the company by the involvement and commitment of top management of the company.
- 4- Jordanian companies could enhance the practice of strategic thinking through: introducing sufficient training programmes for their employees; enhancing sufficient integration at all levels of the company; introducing suitable incentive programs and reward systems to explore forward thinking; developing the capabilities which can be involved in the process of environmental scanning for opportunities and threats; and providing suitable time to practise strategic thinking without affecting the workload of company staff.

## **7.7 Summary and conclusion**

This chapter provided a summary of the main findings of this research which relate to the extent of knowledge of and familiarity with the concept and purpose of strategic thinking (which is relevant to the first objective); the extent of the practice of strategic thinking (which is relevant to the second objective); the relationship between organizational characteristics and the extent of knowledge of and familiarity with the concept and purpose of strategic thinking, as well as the relationship between organizational characteristics and the extent of strategic thinking practice (which is relevant to the third

objective); and the barriers associated with the practice of strategic thinking (which is relevant to the fourth objective).

The main reason for conducting this study to show the level of strategic thinking in Jordanian publicly quoted companies and determine the role that cognitive process of strategic thinking which play in the development of organizations. This study demonstrated that cognitive process of strategic thinking determines how individuals perceive the future of their organizations. It showed that cognitive process of strategic thinking is based upon particular elements of strategic thinking and these elements presented in the study which explain how people think, and to think implies the activation and application of cognitive process or mental models in their organization.

The challenge for organisations is to acknowledge the importance of cognitive process or shared mental models by developing strategies focusing on improving dialogue and interaction among members of organizations to integrate and build shared organisational knowledge. Only then organisational strategies will achieve its main purpose-to serve all stakeholders including employees, shareholders, communities and the wider environment.

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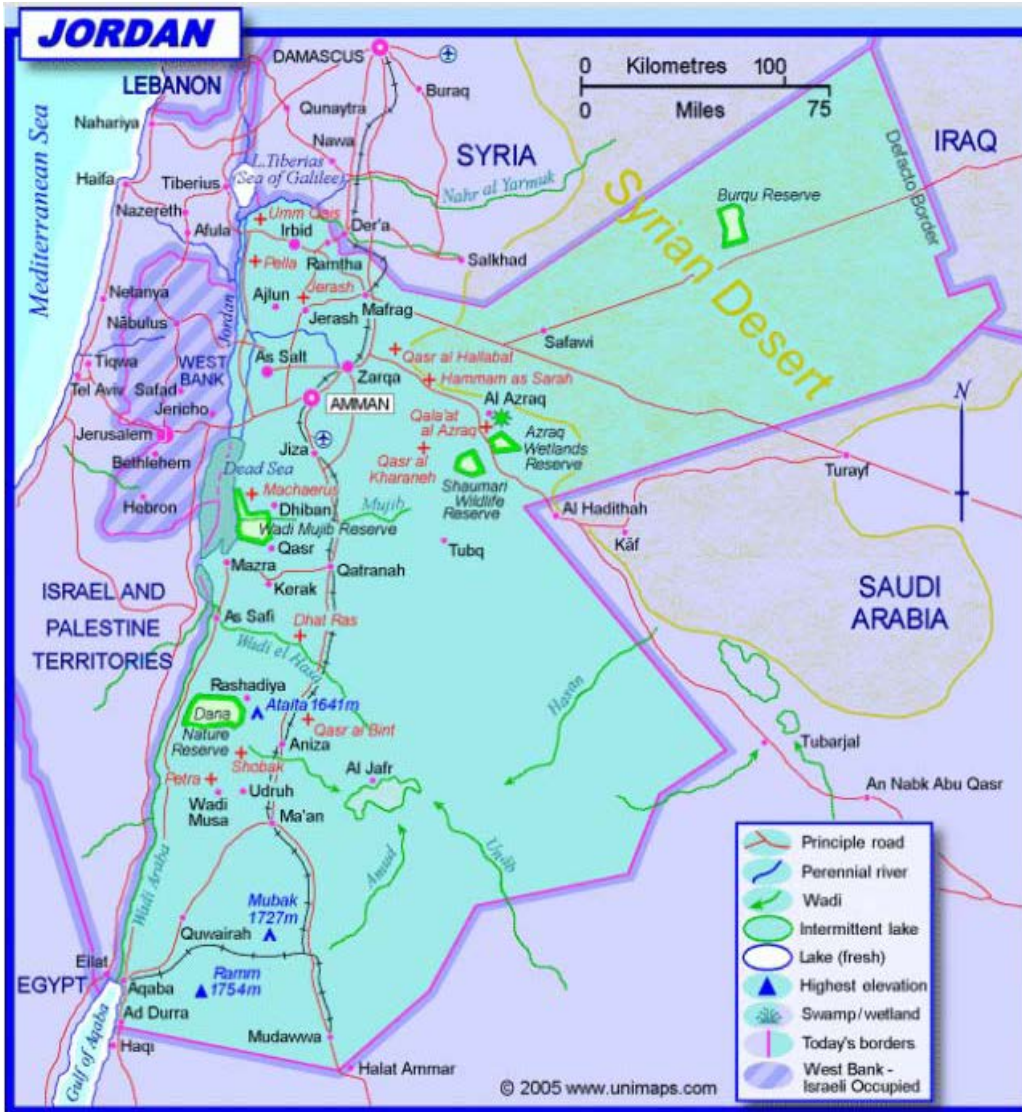
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## **APPENDICES**

# Appendices

Appendix 1: Geographical Map of Jordan



**Appendix 2: Questionnaire covering letter in English**



JRA/GH/Almarshad

27 July 2011

To Whom it May Concern

**Mohammed Almarshad, PhD Student – University of Huddersfield, UK**

I write to confirm that the above named person is conducting research, under my direction, concerned with strategic thinking in Jordanian publically quoted companies. As part of this research he needs to collect data via a questionnaire survey.

I would be grateful if you could facilitate this research by completing Mohammed Almarshad's questionnaire survey.

Yours faithfully

A handwritten signature in black ink that reads 'John Anchor'. The signature is written in a cursive style and is underlined with a single horizontal line.

Dr J. R. Anchor  
Head of Department of Strategy & Marketing  
University of Huddersfield Business School  
Queensgate  
Huddersfield HD1 3DH  
Tel: +44-1484 -472462  
Fax: +44-1484- 473148  
Email: [j.r.anchor@hud.ac.u](mailto:j.r.anchor@hud.ac.u)

### Appendix 3: Questionnaire covering letter in Arabic



بسم الله الرحمن الرحيم

السيد المدير الفاضل

السلام عليكم ورحمة الله وبركاته

افيدكم بانني اقوم بدراسة بعنوان "التفكير الاستراتيجي في الشركات الاردنية المساهمة العامة (Strategic Thinking in Jordanian Publicly Quoted Companies)" للحصول على درجة الدكتوراه من جامعة هيدرزفيلد بالمملكة المتحدة (بريطانيا). ومن أجل تحقيق هدف هذه الدراسة تم اختيار الشركات الاردنية المساهمة العامة المسجلة في سوق عمان المالي .

ولغرض جمع البيانات اللازمة لانجاز هذه الاطروحة، فإننا نتشرف بدعوة سيادتكم للمشاركة في هذا البحث من خلال الإجابة على أسئلة وفقرات الاستبيان المرفق. وفي هذا الصدد نؤكد لكم بأن جميع البيانات الواردة سوف تعامل بسرية كاملة وتكون فقط لأغراض البحث العلمي.

وللعلم فان هذا الاستبيان تم اعداده ليكون قابل للتطبيق على كل القطاعات وليس فقط لحالة شركتكم الموقرة ولذلك اذا كنت غير متأكد من اجابتك او انها قد تكون مضللة ارجوا تركها والبدء في اجابة الفقرة التي تليها.

ولكم جزيل الشكر والعرفان على وقتكم وجهدكم في تعبئة هذا الاستبيان مع الرجاء عدم التردد بالاتصال للاستفسار أو طلب أي معلومات اضافية.

وتفضلوا بقبول فائق الاحترام والامتنان

**Mohammad Almarshad, Doctoral  
Research Student ,University of  
Huddersfield**  
جامعة البلقاء التطبيقية  
Tel: +962777774870  
Email: [m.n.almarshad@hud.ac.uk](mailto:m.n.almarshad@hud.ac.uk)

**Professor Dr. John Anchor, Head of  
Department of Strategy and Marketing  
Business School, University of Huddersfield**  
tel: +44 (0) 1484 472462  
[email: j.r.anchor@hud.ac.uk](mailto:j.r.anchor@hud.ac.uk)

## Appendix 4: Research Questionnaire

### Strategic Thinking Questionnaire 2011

استبانة التفكير الاستراتيجي 2011

#### Section one: Company Profile

#### القسم الأول: معلومات عامة

**Please read the following definition before completing section one.**  
**Strategic Thinking:** “ is a particular way of solving strategic problems at the individual and organizational level by combining a rational and convergent approach with creative and divergent thought processes”(O’Shannassy, 2003).

**التفكير الاستراتيجي:** وهو عبارة عن طريقة معينة في حل المشاكل الاستراتيجية على المستوى الفردي والتنظيمي من خلال الجمع بين عمليات المنهج التفكير المتقارب العقلاني مع عمليات التفكير الابداعي المتباينة.

1. Gender Male  Female  1. الجنس ذكر  انثى
2. Age  < 25  26 – 30  31 – 35  36 – 40  40 +  2. العمر
3. Educational Level      3. المستوى التعليمي  
 Secondary School  ثانويه عامه  
 College Diploma  دبلوم كليات مجتمع  
 Bachelor  بكالوريوس  
 Master  ماجستير  
 PhD  دكتوراة
4. What is your job TITLE? Management Level: Top Management  Middle Management  Lower Management  4. ماهو مركزك الوظيفي  
 Please specify the Job..... الرجاء تحديد الوظيفة: .....

5. Total Work Experience (Year's) 1 – 4  5 – 8  9 – 12  13+  سنوات الخبرة .5
6. What is the age of your company in years? ما هو عمر الشركة بالسنوات .6  
 < 10  10-19  20-29  30-39  40-49  >=50
7. Which of the following categories best represent your Company's INDUSTRY? (Please tick (√) one box only). الى أي من القطاعات التالية يمكن ان تصنف شركتكم ؟ الرجاء وضع اشارة (√) في مربع واحد. .7
- Industrial  صناعي
  - Banking  بنوك
  - Insurance  تأمين
  - Services  خدمات
8. How many employees does your company currently employ? كم عدد العاملين في الشركة في الوقت الراهن؟ .8  
 < 100  100-499  500-999  1000-1999  2000-2999  3000-3999  >=4000
9. Which of the following type best represents your company's OWNERSHIP? (Please tick (√) one box only). الى أي من القطاعات يمكن ان تصنف ملكية شركتكم ؟ الرجاء وضع اشارة (√) في مربع واحد. .9
- Government or partnership with private sector  قطاع حكومي او شراكة مع القطاع الخاص
  - Private ( Individual or other private companies )  قطاع خاص- اشخاص او شركات خاصة اخرى

## Section two: The concept and importance of strategic thinking.

## القسم الثاني: الغاية من التفكير الاستراتيجي.

1. Please describe the concept and importance of strategic thinking for each of the following organizational purposes. **Please tick the appropriate number on the scale provided.**

الرجاء توضيح مفهوم وأهمية التفكير الاستراتيجي في تحقيق كل من الاهداف المؤسسية التالية، الرجاء وضع دائرة حول الرقم الأكثر ملائمة.

.1

1 Strongly disagree غير موافق بشدة	2 Disagree غير موافق	3 Neutral محايد					4 Agree موافق	5 Strongly agree موافق بشدة
Strategic thinking helps to strengthen or gain competitive advantage.	1	2	3	4	5	التفكير الاستراتيجي يساعد على تعزيز او اكتساب ميزة تنافسية:		
Strategic thinking draws a picture of the company by connecting the past, present, and future.	1	2	3	4	5	التفكير الاستراتيجي يضع تصور للشركة من خلال ربط الماضي والحاضر والمستقبل.		
Strategic thinking is included in strategy formulation and implementation, and in determining the strategic performance of the company.	1	2	3	4	5	التفكير الاستراتيجي يدخل في صياغة وتطبيق الاستراتيجية وتقرير الاداء (الانجاز) الاستراتيجي للشركة.		
Strategic thinking provides capability for building the competence needed to control future markets.	1	2	3	4	5	يوفر التفكير الاستراتيجي القدرة على بناء الكفاءة اللازمة للسيطرة على الاسواق في المستقبل .		
Strategic thinking is a synthesizing process resulting in good employment intuition and creativity in the formulation of the strategic direction of the company.	1	2	3	4	5	يعتبر التفكير الاستراتيجي عملية توليفية ناتجة عن التوظيف الجيد للحدس والابداع في صياغة التوجه الاستراتيجي للشركة.		
Strategic thinking is connected with solving strategic issues and conceptualizing the future of the company.	1	2	3	4	5	يرتبط التفكير الاستراتيجي مع حل القضايا الاستراتيجية ووضع تصور لمستقبل الشركة.		
The process of strategic thinking must take place at all levels of the company.	1	2	3	4	5	يجب ان تتم عملية التفكير الاستراتيجي في جميع المستويات الادارية للمنظمة.		

**Section Three: Present three elements of cognitive processes to practice strategic thinking at the individual level.**

القسم الثالث: يبين مؤشرات ممارسة التفكير الاستراتيجي على مستوى الفرد.

1.

**Please read the following definition before completing section three.**  
**Reflecting skills:** is the ability to weave logical and rational thinking through the use of perceptions, experience and information to make judgments as to what has happened and then create intuitive principles that guide future actions. **Please tick the appropriate number on the scale provided.**

يرجى قراءة التعريف التالي قبل اكمال الاجابة على اسئلة القسم الثالث.  
المهارات الانعكاسية: وهي عبارة عن القدرة على وضع تفكير عقلائي منطقي من خلال استخدام المعلومات، والخبرة والادراكات الحسية لاصدار الاحكام على ما حدث ومن ثم خلق او ابتداع مبادئ حدسية والتي توجه الاعمال المستقبلية. **يرجى وضع دائرة في المربع المخصص في المقياس.**

1.



1 Almost never تقريبا لا	2 Once in a while نادرا جدا	3 Sometimes احيانا	4 Often غالبا	5 Frequently بشكل متكرر (دائما)
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Ask "WHY" questions in order to develop an understanding of problems.	1	2	3	4	5	تحاول ان تسأل اسئلة مثل "لماذا" لتطوير عملية فهم القضايا.
Try to apply your experience and knowledge to any problem.	1	2	3	4	5	تحاول تطبيق معرفتك وخبرتك لاية مشكلة تواجهك.
Accept that your preferable beliefs could be mistaken when thinking about what you have done and decisions you have made in solving a problem.	1	2	3	4	5	تقبلك بأن تكون معتقداتك المفضلة خاطئة عندما تفكر بما عملته وأخذته من قرارات في حل القضايا.
Acknowledge the limitations of your own perspective.	1	2	3	4	5	الاعتراف بمحدوديات وجهة نظرك الخاصة بك.
Discover how you could have handled a situation better when thinking about a past decision you have made.	1	2	3	4	5	تكتشف كيفية معالجة قضية ما بشكل افضل عند التفكير بقرار سابق قمت به.
Try to find a common goal that will allow two parties within your organization who are competing or in conflict both to succeed.	1	2	3	4	5	تحاول ايجاد هدف مشترك الذي يسمح لطرفين متنافسين او متضاربين في شركتك لكي ينجحوا كلاهما.
Try to take into account the use of information gathered by experience, in the solution of the problem.	1	2	3	4	5	تحاول ان تأخذ بالحسبان استخدام المعلومات التي تم جمعها بواسطة الخبرة في حل قضيه ما.
Seek coaching by colleagues or professionals when thinking about past decisions that you have made.	1	2	3	4	5	تسعى الى التدريب من قبل زملاء او مختصين عند التفكير بقرارات اتخذتها سابقا.
Try to take into account the real life implications when thinking about decisions and actions you have made.	1	2	3	4	5	تحاول أن تأخذ بعين الاعتبار انعكاسات الواقع عند التفكير بالقرارات والاعمال (الافعال) التي قمت بها.
Seek to frame problems from different perspectives.	1	2	3	4	5	تسعى لتأطير القضايا من وجهات نظر مختلفة.

2.

**Please read the following definition before completing section three.**

**Reframing skills:** is the ability to switch attention across multiple perspectives, frames, mental models and paradigms in order to generate new insights and options for actions. **Please tick the appropriate number on the scale provided.**

يرجى قراءة التعريف التالي قبل اكمال الاجابة على اسئلة القسم الثالث.  
اعادة تأطير المهارات: وهي عبارة عن القدرة على تحويل الانتباه عبر وجهات نظر متعددة،  
أطر، نماذج عقلية من أجل توليد او خلق افكار جديدة وخيارات للاعمال. يرجى وضع اشارة في  
المربع المخصص في المقياس.

2.

1 Almost never تقريبا لا	2 Once in a while نادرا جدا	3 Sometimes احيانا					4 Often غالبا	5 Frequently بشكل متكرر (دائما)
Try to create and evaluate a larger number of possible solutions and perceptions when the problem is more complex.	1	2	3	4	5	تحاول ابتداء او خلق وتقييم اكبر عدد ممكن من الحلول والتصورات عندما تكون المشكلة اكثر تعقيدا.		
Engage in discussions with those who hold a different world view and different beliefs.	1	2	3	4	5	تحاول الدخول في مناقشات مع الاشخاص الذين يملكون وجهات نظر ومعتقدات مختلفة.		
Examine a situation by using various viewpoints.	1	2	3	4	5	تقوم بفحص موقف ما بواسطة استخدام وجهات نظر مختلفة.		
Try to use different points of views to map out different strategies needed to the resolution of a problem.	1	2	3	4	5	تحاول استخدام مختلف وجهات النظر لرسم استراتيجيات مختلفة لازمة لتسوية مشكله ما.		
Try to create a pre-conceived solution to a situation before it has been clearly defined or understood.	1	2	3	4	5	تحاول ايجاد حل مسبق لقضيه ما قبل ان يتم فهمها او تعريفها بشكل واضح.		
Track trends by asking everyone around you what is changing or what is new.	1	2	3	4	5	تتبع الميول والتغيرات بتوجيه اسئلة لكل من حولك عن المتغيرات والمستجدات.		
Examine a problem by using one viewpoint.	1	2	3	4	5	تقوم بفحص/تدرس المشكلة وذلك باستخدام وجهة نظر واحده.		
Try to avoid engagement in discussions with critics especially with those who make different assumptions about a situation.	1	2	3	4	5	تحاول تجنب المشاركة في مناقشات مع النقاد خصوصا مع الاشخاص الذين يضعون افتراضات مختلفة حول قضية ما.		
Try first to examine the problem at its face value and create plans to solve it before seeking other people's opinions.	1	2	3	4	5	تحاول فحص/دراسة المشكلة اولا بمظهرها الخارجي ومن ثم انشاء الخطط لحلها قبل السعي للحصول على آراء الاشخاص الآخرين.		

**Please read the following definition before completing section three.**

**Systems thinking:** is the ability to see systems holistically by understanding properties, forces, patterns and interrelationships that shape the behaviours of the systems which provide options for actions. **Please circle the most appropriate number for all the following items.**

يرجى قراءة التعريف التالي قبل الاجابة على اسئلة القسم الثالث.  
**نظم التفكير:** وهي القدرة لرؤية النظم بشكل شمولي عن طريق فهم الخصائص، القوى، الانماط وعلاقتها التي تعكس سلوك النظم وتقدم خيارات لمختلف الاعمال. **يرجى وضع اشارة على الرقم المناسب في المقياس.**

1 Almost never تقريبا لا	2 Once in a while نادرا جدا	3 Sometimes احيانا					4 Often غالبا	5 Frequently بشكل متكرر (دائما)
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Find that in most cases external environmental changes require changes internally.	1	2	3	4	5	تجد في معظم المسائل ان تغيرات البيئة الخارجية تتطلب تغييرات داخلية.
Try to think about how different parts of the company influence the way things are done.	1	2	3	4	5	تحاول التفكير في كيفية تأثير الأطراف المختلفة في الشركة على طريقة انجاز الأعمال.
Concentrate on developing the capabilities of company employees to solve the problem when they are faced with a problem needing resolution.	1	2	3	4	5	تركز على تطوير قدرات موظفين الشركة في حل القضايا عند مواجهة قضيه تحتاج الى حل.
Search to identify external environmental forces that affect your work.	1	2	3	4	5	تحاول ايجاد وتحديد قوى البيئة الخارجية التي تؤثر على عملك .
Try to focus on breaking the problem into parts before defining it.	1	2	3	4	5	تحاول التركيز على تفكيك المشكلة الى اجزاء قبل القيام بتوضيحها.
Search for specific feedback on your company's performance.	1	2	3	4	5	تحاول ايجاد تغذية راجعة محددة تتعلق بانجاز شركتك.
Seek to extract patterns or rules from the available information.	1	2	3	4	5	تسعى لاستخلاص انماط او قواعد من المعلومات المتوفرة.
Focus on searching for the cause before taking any action.	1	2	3	4	5	تركز على عملية البحث عن السبب قبل اتخاذ أي اجراء.
Seek to understand how the individuals in the situation are interrelated to each other.	1	2	3	4	5	تسعى لفهم كيفية علاقة او ترابط الاشخاص مع بعضهم البعض في مواجهة قضيه ما.
Try to take into account how change occurs through the influence of environmental factors.	1	2	3	4	5	تحاول الأخذ بعين الاعتبار حول كيفية ظهور وحدث التغيير من خلال تأثير العوامل البيئية.
Look to take action before seeking the cause.	1	2	3	4	5	تتطلع الى اتخاذ اجراءات قبل دراسة القضية او البحث عن السبب.
Try to look for changes in the company's structure that lead to significant enduring improvements.	1	2	3	4	5	تحاول ان تنظر للتغيرات في بنية شركتك والتي تؤدي الى تحسينات دائمة او جوهرية.

**Section Four: Present three elements of practicing strategic thinking processes at an organizational level.**

**القسم الرابع: يمثل ممارسة التفكير الاستراتيجي على مستوى المنظمة.**

1. **Please indicate, using the 5-point scale below, to what extent the following statements describe an organic structure company as a relevant factor to strategic thinking of an organizational level.**

يرجى الإشارة، وذلك باستخدام المقياس الخماسي في الأسفل، إلى أي مدى تصف الفقرات التالية الهيكل العضوي لشركتك باعتبارها عاملاً هاماً في عملية ممارسة التفكير الاستراتيجي على المستوى التنظيمي. يرجى وضع إشارة على الرقم المناسب في المقياس.

**Please circle the most appropriate number on the scale provided.**

1 Almost never تقريباً لا	2 Once in a while نادراً جداً	3 Sometimes أحياناً	4 Often غالباً	5 Frequently بشكل متكرر (دائماً)
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Motivates interaction and communication and encourages the generation of new ideas.	1	2	3	4	5	تحفز على عملية التواصل والتفاعل وتشجع على ابتداء أو خلق أفكار جديدة.
Develops a collaborative structure which leads to the free exchange of ideas within the company.	1	2	3	4	5	تطور بنية أو هيكل تشاركي يقود إلى تبادل حر للأفكار داخل شركتك.
Fosters ongoing strategic dialogue among top team through applying a reward and compensation system.	1	2	3	4	5	تشجع الحوار الاستراتيجي الجاري بين الفرق العليا من خلال تطبيق نظام الثواب والتعويض.
Taking into account the operational and strategic necessities for designing a convenient structure for the company.	1	2	3	4	5	تأخذ بعين الاعتبار الضرورات الاستراتيجية والتنشغيلية لتصميم بنية ملائمة لشركتك.
Develop shared beliefs and visions about the goals and values of the company with others.	1	2	3	4	5	تطور رؤى ومعتقدات مشتركة حول أهداف وقيم الشركة مع الآخرين.
Consider the development of a structure supportive of change and development for the company.	1	2	3	4	5	تأخذ بعين الاعتبار تطوير بنية داعمة للتغيير ولتطوير الشركة.
The ability to make rapid responses to the company's competitors and to changes in market demand.	1	2	3	4	5	القدرة على القيام برد فعل سريع على منافسي الشركة والتغيرات في طلب السوق.

2. **Please indicate, using the 5-point scale below, to what extent the following statements describe environment analysis as a relevant factor to strategic thinking at an organizational level.**  
**Please circle the most appropriate number on the scale provided.**

يرجى الإشارة، وذلك باستخدام المقياس الخماسي في الأسفل، إلى أي مدى العبارات التالية تصف عملية التحليل البيئي باعتبارها عاملاً هاماً في عملية التفكير الاستراتيجي على المستوى التنظيمي. يرجى وضع إشارة على الرقم المناسب في المقياس المقدم.

1 Not important غير مهمة	2 Slightly important مهمة قليلا	3 Moderately important مهمة	4 Very important مهمة جدا	5 Extremely important مهمة جدا جدا		
The consideration of company strengths and opportunities.	1	2	3	4	5	اعتبارات نقاط قوة الشركة وفرصها.
Recognition of internal and external analysis of industry.	1	2	3	4	5	ادراك او التعرف على عملية التحليل الخارجي والداخلي للصناعة.
Ability to understand the dynamics of the external and internal environments.	1	2	3	4	5	القدرة على فهم ديناميكيات (تعقيدات مستمرة) البيئة الداخلية والخارجية للشركة.
Identification of the strategic issues of the company.	1	2	3	4	5	تحديد القضايا الاستراتيجية للشركة.
Understanding of ambiguities and complexities for the interpretation and evaluation of events.	1	2	3	4	5	فهم الغموض والتعقيدات لتفسير وتقييم الأحداث.

3.

<p><b>Please indicate, using the 5-point scale below, to what extent the following statements describe intelligent opportunism as a relevant factor to strategic thinking at an organizational level.</b></p> <p><b>Please circle the most appropriate number on the scale provided</b></p>	<p>يرجى الإشارة، وذلك باستخدام المقياس الخماسي في الأسفل، الى أي مدى العبارات التالية تصف عملية انتهاز الفرصة الذكية كعامل ذو صلة لعملية التفكير الاستراتيجي على المستوى التنظيمي.</p> <p>يرجى وضع اشارة على الرقم المناسب في المقياس المقدم.</p>
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3.

1 Not important غير مهمة	2 Slightly important مهمة قليلا	3 Moderately important مهمة	4 Very important مهمة جدا	5 Extremely important مهمة جدا جدا
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Find out new competitive areas.	1	2	3	4	5	ايجاد مجالات تنافسية جديدة.
Awareness of participation of middle managers.	1	2	3	4	5	الوعي بمشاركة مدراء الادارة الوسطى.
Awareness about company strengths and weaknesses.	1	2	3	4	5	الوعي بنقاط قوة و ضعف الشركة.
Consciousness about the main strategic problems of the company.	1	2	3	4	5	الوعي بالمشاكل الاستراتيجية الرئيسية للشركة.

Considering the input of strategies from lower level management suitable for a changing environment.	1	2	3	4	5	النظر في ادخال استراتيجيات من مستوى الادارة الدنيا مناسبة لبيئة متغيرة.
Identifying alternative strategies from people who are more innovative and more creative.	1	2	3	4	5	تعدد استراتيجيات بديلة من قبل اشخاص الذين اكثر ابداعا وابتكارا.

### Section Five: presents ways of overcoming barriers to strategic thinking

### القسم الخامس: يمثل المعوقات التي تمنع عملية ممارسة التفكير الاستراتيجي

1. To what extent do the following statements impede your company from practising strategic thinking. Please circle the most appropriate number on the scale provided.

الى أي مدى العبارات التالية تعيق الشركة من ممارسة عملية التفكير الاستراتيجي. يرجى وضع اشارة على الرقم المناسب في المقياس المقدم.

1 Strongly disagree غير موافق بشدة	2 Disagree غير موافق	3 Neutral محايد	4 Agree موافق	5 Strongly agree موافق بشدة
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Insufficient integration at all levels of company management.	1	2	3	4	5	عدم كفاية التكامل في جميع المستويات الادارية في الشركة.
Insufficient programmes introduced to employees to train them in thinking strategically.	1	2	3	4	5	عدم كفاية البرامج المقدمة للموظفين ليتم تدريبهم على التفكير استراتيجيا.
Unclear benefits of strategic thinking processes to your company.	1	2	3	4	5	عدم وضوح الفوائد لعمليات التفكير الاستراتيجي لشركتك.
Applying strategic thinking requires more time which affects the current work of company staff.	1	2	3	4	5	تطبيق التفكير الاستراتيجي يتطلب المزيد من الوقت مما يؤثر على العمل الحالي لموظفين شركتك.
Inadequate review of company structure, may act as barrier to practise strategic thinking.	1	2	3	4	5	المراجعات الغير كافية لبنية الشركة، قد تكون عائق لممارسة التفكير الاستراتيجي.
Inadequate incentive programmes to explore forward thinking and creativity.	1	2	3	4	5	عدم كفاية برامج الحوافز لاستكشاف تفكير وابداع متقدم.
Inadequate training programmes in order to become strategic thinkers.	1	2	3	4	5	عدم كفاية البرامج التدريبية لكي يصبح موظفين الشركة مفكرين استراتيجيين.
Insufficient capabilities involved in environmental scanning for opportunities and threats	1	2	3	4	5	عدم كفاية قدرات القائمين على عملية المسح البيئي لفرص وتهديدات الشركة.

2. Please write any comments or suggestions which you feel would be helpful to our research.

الرجاء تدوين اية ملاحظات او اقتراحات ترى انها قد تكون مفيدة لهذه الدراسة

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Thank you very much for your time and help

شكرا جزيلا على المساعدة

**Professor Dr. John Anchor, Head of Department of Strategy and Marketing  
Business School, University of Huddersfield, Queensgate  
Huddersfield, HD1 3DH, UK  
Tel: +44 (0) 1484 472462**

**Mohammad Almarshad, Doctoral Research Student  
Al mafraq-Jordan  
Balama 25710  
Tel: +962777774870  
Email: [m.n.almarshad@hud.ac.uk](mailto:m.n.almarshad@hud.ac.uk)**

## **Appendix 5: Interviews questions**

**Question 1:** The outcomes of the questionnaire analysis reflect that Jordanian publicly quoted companies are familiar with the concept and purpose of strategic thinking. Could you explain what are the concepts and purposes most familiar to you?

**Question 2:** The outcomes of the questionnaire analysis reflect that Jordanian publicly quoted companies are concerned with the use of reflecting, reframing and systems thinking skills. What are the important activities to use in your company to solve problems and anticipate the future?

**Question 3:** To assess the adaptation of strategic thinking, what are the activities that your company applies which reflect the organic structure that your company uses?

**Question 4:** What further activities do you use to study your company environment?

**Question 5:** To benefit from identifying alternative strategies and new ideas or opportunities when applying intelligent opportunism, what are the roles you apply in your company?

**Question 6:** What are the main barriers which you think may prevent your company from practising strategic thinking?



## Appendix 6: Data Analysis

**Table 5. 30:** The correlation between age of company and reflecting thinking skills and employee number (size of company) and reflecting thinking skills (n=336 questionnaire)

Reflecting thinking skills	Age of company	Employee number (size of the company)
Reflecting thinking skills 1: correlation coefficient Sig. (1-tailed)	.016 .385	-.027 .308
Reflecting thinking skills 2: correlation coefficient Sig. (1-tailed)	.133** .007	.015 .395
Reflecting thinking skills 3: correlation coefficient Sig. (1-tailed)	.066 .133	-.103* .029
Reflecting thinking skills 4: correlation coefficient Sig. (1-tailed)	-.100* .033	-.130** .008
Reflecting thinking skills 5: correlation coefficient Sig. (1-tailed)	.105* .027	-.034 .269
Reflecting thinking skills 6: correlation coefficient Sig. (1-tailed)	.182** .000	.109* .023
Reflecting thinking skills 7: correlation coefficient Sig. (1-tailed)	.227** .000	.117* .016
Reflecting thinking skills 8: correlation coefficient Sig. (1-tailed)	.168** .001	.112* .020
Reflecting thinking skills 9: correlation coefficient Sig. (1-tailed)	.150** .003	.098* .037
Reflecting thinking skills 10 : correlation coefficient Sig. (1-tailed)	.147** .004	.072 .094

\*\* . Correlation is significant at the 0.01 level (1-tailed).

\* . Correlation is significant at the 0.05 level (1-tailed).

**Source:** analysis of questionnaire data

**Table 5. 31:** Kruskal-Wallis test: reflecting thinking skills by business sector

Reflecting thinking skills	Chi-Square	df	Asymp. Sig.
1. Ask “WHY” questions in order to develop an understanding of problems.	10.362	3	.016
2. Try to apply your experience and knowledge to any problem.	15.324	3	.002
3. Accept that your preferable beliefs could be mistaken when thinking about what you have done and decisions you have made in solving a problem.	4.795	3	.187
4. Acknowledge the limitations of your own perspective.	4.648	3	.199
5. Discover how you could have handled a situation better when thinking about a past decision you have made.	11.428	3	.010
6. Try to find a common goal that will allow two parties within your organization who are competing or in conflict both to succeed.	15.340	3	.002
7. Try to take into account the use of information gathered by experience, in the solution of the problem.	1.023	3	.796
8. Seek coaching by colleagues or professionals when thinking about past decisions that you have made.	10.886	3	.012
9. Try to take into account the real life implications when thinking about decisions and actions you have made.	8.752	3	.033
10. Seek to frame problems from different perspectives.	9.842	3	.020

**Source:** analysis of questionnaire data

**Table 5. 32:** Kruskal-Wallis test grouping variables (reflecting thinking skills) by business sectors

Reflecting thinking skills	Between gropes	Chi-Square	df	Asymp. Sig.
1. Ask “WHY” questions in order to develop an understanding of problems.	Industrial & Banking	2.569	1	0.109
	Industrial & Insurance	7.256	1	0.007
	Industrial & services	0.004	1	0.952
	Banking & Insurance	0.714	1	0.398
	Banking & services	2.457	1	0.117
	Insurance & services	7.124	1	0.008
2. Try to apply your experience and knowledge to any problem.	Industrial & Banking	0.264	1	0.607
	Industrial & Insurance	2.260	1	0.133
	Industrial & services	8.063	1	0.005
	Banking & Insurance	2.799	1	0.094
	Banking & services	2.567	1	0.109
	Insurance & services	10.859	1	0.001
5. Discover how you could have handled a situation better when thinking about a past decision you have made.	Industrial & Banking	0.786	1	0.375
	Industrial & Insurance	5.630	1	0.018
	Industrial & services	1.155	1	0.282
	Banking & Insurance	0.818	1	0.366
	Banking & services	2.340	1	0.126
	Insurance & services	10.487	1	0.001
6. Try to find a common goal that will allow two parties within your organization who are competing or in conflict both to succeed.	Industrial & Banking	0.747	1	0.388
	Industrial & Insurance	0.005	1	0.942
	Industrial & services	11.687	1	0.001
	Banking & Insurance	0.469	1	0.481
	Banking & services	6.992	1	0.008
	Insurance & services	5.610	1	0.018
8. Seek coaching by colleagues or professionals when thinking about past decisions that you have made.	Industrial & Banking	2.215	1	0.137
	Industrial & Insurance	0.184	1	0.668
	Industrial & services	10.239	1	0.001
	Banking & Insurance	0.715	1	0.398
	Banking & services	0.350	1	0.554
	Insurance & services	3.594	1	0.058
9. Try to take into account the real life implications when thinking about decisions and actions you have made.	Industrial & Banking	6.698	1	0.010
	Industrial & Insurance	1.152	1	0.283
	Industrial & services	0.001	1	0.980
	Banking & Insurance	2.540	1	0.111
	Banking & services	8.095	1	0.004
	Insurance & services	1.351	1	0.245
10. Seek to frame problems from different perspectives.	Industrial & Banking	0.507	1	0.477
	Industrial & Insurance	6.857	1	0.009
	Industrial & services	0.037	1	0.848
	Banking & Insurance	1.113	1	0.291
	Banking & services	0.854	1	0.358
	Insurance & services	9.445	1	0.002

**Source:** analysis of questionnaire data

**Table 5. 33:** The correlation between age of company and reframing thinking skills and employee number (size of company) and reframing thinking skills (n=336 questionnaire)

Reframing thinking skills	Age of company	Employee number (size of the company)
Reframing thinking skills 1: correlation coefficient Sig. (1-tailed)	.089 .051	.048 .188
Reframing thinking skills 2: correlation coefficient Sig. (1-tailed)	.183** .000	.055 .159
Reframing thinking skills 3: correlation coefficient Sig. (1-tailed)	.107* .025	.026 .315
Reframing thinking skills 4: correlation coefficient Sig. (1-tailed)	.111* .021	.055 .159
Reframing thinking skills 5: correlation coefficient Sig. (1-tailed)	.024 .327	-.024 .332
Reframing thinking skills 6: correlation coefficient Sig. (1-tailed)	-.029 .300	-.055 .157
Reframing thinking skills 7: correlation coefficient Sig. (1-tailed)	-.038 .245	-.069 .104
Reframing thinking skills 8: correlation coefficient Sig. (1-tailed)	.095* .042	.025 .325
Reframing thinking skills 9: correlation coefficient Sig. (1-tailed)	-.090* .050	.027 .312

\*\* . Correlation is significant at the 0.01 level (1-tailed).

**Table 5. 34:** Kruskal-Wallis test: reframing thinking skills by business sector

Reframing thinking skills	Chi-Square	df	Asymp. Sig.
1. Try to create and evaluate a larger number of possible solutions and perceptions when the problem is more complex.	3.265	3	0.353
2. Engage in discussions with those who hold a different world view and different beliefs.	2.983	3	0.394
3. Examine a situation by using various viewpoints.	1.662	3	0.645
4. Try to use different points of views to map out different strategies needed to the resolution of a problem.	3.733	3	0.292
5. Try to create a pre-conceived solution to a situation before it has been clearly defined or understood.	15.196	3	0.002
6. Track trends by asking everyone around you what is changing or what is new.	2.637	3	0.451
7. Examine a problem by using one viewpoint.	20.802	3	0.000
8. Try to avoid engagement in discussions with critics especially with those who make different assumptions about a situation.	2.270	3	0.518
9. Try first to examine the problem at its face value and create plans to solve it before seeking other people's opinions.	12.464	3	0.006

**Source:** analysis of questionnaire data

**Table 5. 35:** Kruskal-Wallis test grouping variables (reframing thinking skills) by business sectors

<b>Reframing thinking skills</b>	<b>Between gropes</b>	<b>Chi-Square</b>	<b>df</b>	<b>Asymp. Sig.</b>
5. Try to create a pre-conceived solution to a situation before it has been clearly defined or understood.	Industrial & Banking	0.022	1	0.881
	Industrial & Insurance	0.009	1	0.926
	Industrial & services	11.816	1	0.001
	Banking & Insurance	0.009	1	0.926
	Banking & services	5.086	1	0.024
	Insurance & services	7.417	1	0.006
7. Examine a problem by using one viewpoint.	Industrial & Banking	0.612	1	0.434
	Industrial & Insurance	4.672	1	0.031
	Industrial & services	19.089	1	0.000
	Banking & Insurance	0.763	1	0.382
	Banking & services	4.737	1	0.030
	Insurance & services	2.936	1	0.087
4. Try first to examine the problem at its face value and create plans to solve it before seeking other people's opinions.	Industrial & Banking	0.233	1	0.629
	Industrial & Insurance	0.060	1	0.807
	Industrial & services	10.468	1	0.001
	Banking & Insurance	0.482	1	0.488
	Banking & services	4.725	1	0.030
	Insurance & services	4.488	1	0.034

**Source:** analysis of questionnaire data

**Table 5. 36:** The correlation between age of company and systems thinking skills and employee number (size of company) and systems thinking skills (n=336 questionnaire).

The usage of systems thinking skills	Age of company	Employee number (size of the company)
systems thinking skills 1: correlation coefficient Sig. (1-tailed)	-.049 .188	.070 .101
systems thinking skills 2: correlation coefficient Sig. (1-tailed)	.138** .006	.074 .088
systems thinking skills 3: correlation coefficient Sig. (1-tailed)	.083 .064	.073 .091
systems thinking skills 4: correlation coefficient Sig. (1-tailed)	.049 .187	.008 .439
systems thinking skills 5: correlation coefficient Sig. (1-tailed)	.026 .315	-.006 .458
systems thinking skills 6: correlation coefficient Sig. (1-tailed)	.116* .017	.156** .002
systems thinking skills 7: correlation coefficient Sig. (1-tailed)	.226** .000	.147** .004
systems thinking skills 8: correlation coefficient Sig. (1-tailed)	.058 .143	-.077 .079
systems thinking skills 9: correlation coefficient Sig. (1-tailed)	.110* .022	-.018 .369
systems thinking skills 10: correlation coefficient Sig. (1-tailed)	.009 .434	-.012 .413
systems thinking skills 11: correlation coefficient Sig. (1-tailed)	.027 .309	.034 .268
systems thinking skills 12: correlation coefficient Sig. (1-tailed)	.094* .043	.026 .319

\*\* . Correlation is significant at the 0.01 level (1-tailed).

\* . Correlation is significant at the 0.05 level (1-tailed).

**Source:** analysis of questionnaire data

**Table 5. 37:** Kruskal-Wallis test: systems thinking skills by business sector

<b>Systems thinking skills</b>	<b>Chi-Square</b>	<b>df</b>	<b>Asymp. Sig.</b>
1. Find that in most cases external environmental changes require changes internally.	1.104	3	0.776
2. Try to think about how different parts of the company influence the way things are done.	22.250	3	0.000
3. Concentrate on developing the capabilities of company employees to solve the problem when they are faced with a problem needing resolution.	7.311	3	0.063
4. Search to identify external environmental forces that affect your work.	24.731	3	0.000
5. Try to focus on breaking the problem into parts before defining it.	18.242	3	0.000
6. Search for specific feedback on your company's performance.	8.628	3	0.035
7. Seek to extract patterns or rules from the available information.	28.419	3	0.000
8. Focus on searching for the cause before taking any action.	19.754	3	0.000
9. Seek to understand how the individuals in the situation are interrelated to each other.	26.308	3	0.000
10. Try to take into account how change occurs through the influence of environmental factors.	2.590	3	0.459
11. Try to look for changes in the company's structure that lead to significant enduring improvements.	22.260	3	0.000
12. Look to take action before seeking the cause.	9.054	3	0.029

**Source:** analysis of questionnaire data

**Table 5. 38:** Kruskal-Wallis test grouping variables (systems thinking skills) by business sectors

<b>systems thinking skills</b>	<b>Between gropes</b>	<b>Chi-Square</b>	<b>df</b>	<b>Asymp. Sig.</b>
2. Try to think about how different parts of the company influence the way things are done.	Industrial & Banking	20.502	1	0.000
	Industrial & Insurance	1.283	1	0,257
	Industrial & services	0.137	1	0.711
	Banking & Insurance	10.696	1	0.001
	Banking & services	19.413	1	0.000
	Insurance & services	0.760	1	0.383
4. Search to identify external environmental forces that affect your work.	Industrial & Banking	19.28	1	0.165
	Industrial & Insurance	11.220	1	0.001
	Industrial & services	20.984	1	0.000
	Banking & Insurance	2.154	1	0.142
	Banking & services	3.735	1	0.053
	Insurance & services	0.029	1	0.866
5. Try to focus on breaking the problem into parts before defining it.	Industrial & Banking	1.612	1	0.204
	Industrial & Insurance	4.201	1	0.040
	Industrial & services	17.673	1	0.000
	Banking & Insurance	0.022	1	0.881
	Banking & services	1.742	1	0.187
	Insurance & services	2.676	1	0.102
6. Search for specific feedback on your company's performance.	Industrial & Banking	3.450	1	0.063
	Industrial & Insurance	3.236	1	0.072
	Industrial & services	0.173	1	0.678
	Banking & Insurance	0.158	1	0.691
	Banking & services	5.094	1	0.024
	Insurance & services	5.026	1	0.025
7. Seek to extract patterns or rules from the available information.	Industrial & Banking	6.433	1	0.011
	Industrial & Insurance	5.596	1	0.018
	Industrial & services	5.005	1	0.025
	Banking & Insurance	0.228	1	0.633
	Banking & services	18.236	1	0.000
	Insurance & services	18.470	1	0.000
8. Focus on searching for the cause before taking any action.	Industrial & Banking	6.731	1	0.009
	Industrial & Insurance	11.867	1	0.001
	Industrial & services	1.829	1	0.000
	Banking & Insurance	0.031	1	0.861
	Banking & services	0.068	1	0.794
	Insurance & services	0.322	1	0.570
9. Seek to understand how the individuals in the situation are interrelated to each other.	Industrial & Banking	1.511	1	0.219
	Industrial & Insurance	0.325	1	0.568
	Industrial & services	15.048	1	0.000
	Banking & Insurance	0.497	1	0.481
	Banking & services	14.698	1	0.000
	Insurance & services	13.589	1	0.000
11. Look to take action before seeking the cause.	Industrial & Banking	6.609	1	0.010
	Industrial & Insurance	13.745	1	0.000
	Industrial & services	16.213	1	0.000
	Banking & Insurance	0.004	1	0.951
	Banking & services	0.215	1	0.643
	Insurance & services	0.292	1	0.589
12. Try to look for changes in the company's structure that lead to significant enduring improvements.	Industrial & Banking	5.127	1	0.024
	Industrial & Insurance	2.301	1	0.129
	Industrial & services	0.305	1	0.581
	Banking & Insurance	0.254	1	0.614
	Banking & services	7.188	1	0.007
	Insurance & services	3.783	1	0.052

**Source:** analysis of questionnaire data



**Table 5. 39:** The correlation between age of company and using organic structure of the company and employee number (size of company) and the use of organic structure (n=336 questionnaire).

Using an organic structure of the company	Age of company	Employee numbers (size of the company)
Using an organic structure 1: correlation coefficient Sig. (1-tailed)	.219** .000	.048 .188
Using an organic structure 2: correlation coefficient Sig. (1-tailed)	.194** .000	.055 .159
Using an organic structure 3: correlation coefficient Sig. (1-tailed)	.125* .011	.026 .315
Using an organic structure 4: correlation coefficient Sig. (1-tailed)	.044 .209	.055 .159
Using an organic structure 5: correlation coefficient Sig. (1-tailed)	.100* .033	-.024 .332
Using an organic structure 6: correlation coefficient Sig. (1-tailed)	.082 .066	-.055 .157
Using an organic structure 7: correlation coefficient Sig. (1-tailed)	.089 .052	-.069 .104

\*\* . Correlation is significant at the 0.01 level (1-tailed).

\* . Correlation is significant at the 0.05 level (1-tailed).

**Source:** analysis of questionnaire data

**Table 5. 40:** Kruskal-Wallis test: Organic structure by company sector

Organic structure of the company	Chi-Square	df	Asymp. Sig.
1. Motivates interaction and communication and encourages the generation of new ideas.	14.29	3	0.003
2. Develops a collaborative structure which leads to the free exchange of ideas within the company.	11.151	3	0.011
3. Fosters ongoing strategic dialogue among top team through applying a reward and compensation system.	8.290	3	0.040
4. Taking into account the operational and strategic necessities for designing a convenient structure for the company.	1.842	3	0.606
5. Develop shared beliefs and visions about the goals and values of the company with others.	1.572	3	0.666
6. Consider the development of a structure supportive of change and development for the company.	6.069	3	0.108
7. The ability to make rapid responses to the company's competitors and to changes in market demand.	6.396	3	0.094

**Source:** analysis of questionnaire data

**Table 5. 41:** The correlation between age of company and the use of environmental analysis and employee number (size of company) and use of environmental analysis (n=336 questionnaire)

<b>Environmental analysis</b>	<b>Age of company</b>	<b>Employee number (size of the company)</b>
Environmental analysis 1: correlation coefficient Sig. (1-tailed)	.061 .134	.040 .235
Environmental analysis 2: correlation coefficient Sig. (1-tailed)	.110* .022	.072 .093
Environmental analysis 3: correlation coefficient Sig. (1-tailed)	.170** .001	.082 .066
Environmental analysis 4: correlation coefficient Sig. (1-tailed)	.000 .500	.059 .140
Environmental analysis 5: correlation coefficient Sig. (1-tailed)	.114* .019	.153** .002

\*\* . Correlation is significant at the 0.01 level (1-tailed).

\* . Correlation is significant at the 0.05 level (1-tailed).

**Source:** analysis of questionnaire data

**Table 5. 42:** Mann-Whitney test: company sector vs. use of environmental analysis

<b>Environmental analysis</b>	<b>Between groups</b>	<b>Mann-Whitney U</b>	<b>Wilcoxon W</b>	<b>Z</b>	<b>Asymp. Sig. (2-tailed)</b>
1. The consideration of company strengths and opportunities.	Industrial & Banking	1277.000	8180.000	-2.526	.012
	Industrial & Insurance	2744.000	9647.000	-2.560	.010
	Industrial & services	5501.000	12404.000	-4.017	.000
	Banking & Insurance	898.500	2728.500	-.014	.989
	Banking & services	1890.000	2355.000	-.223	.824
	Insurance & services	3775.500	5605.500	-.300	.764
2. Recognition of internal and external analysis of industry.	Industrial & Banking	1389.000	8292.000	-1.908	.056
	Industrial & Insurance	2890.500	9793.500	-2.053	.040
	Industrial & services	5705.000	12608.000	-3.588	.000
	Banking & Insurance	894.000	1359.000	-.057	.955
	Banking & services	1824.000	2289.000	-.548	.583
	Insurance & services	3687.000	5517.000	-.575	.565
3. Ability to understand the dynamics of the external and internal environments.	Industrial & Banking	1360.500	8263.500	-2.015	.044
	Industrial & Insurance	3333.500	10236.500	-.579	.562
	Industrial & services	6328.500	13231.500	-2.360	.018
	Banking & Insurance	744.500	2574.500	-1.451	.147
	Banking & services	1782.000	10167.000	-.757	.449
	Insurance & services	3464.500	5294.500	-1.278	.201
4. Identification of the strategic issues of the company.	Industrial & Banking	1469.000	8372.000	-1.492	.136
	Industrial & Insurance	2873.500	9776.500	-2.135	.033
	Industrial & services	5878.500	12781.500	-3.233	.001
	Banking & Insurance	863.500	1328.500	-.353	.724
	Banking & services	1792.500	2257.500	-.692	.489
	Insurance & services	3730.000	5560.000	-.440	.660
5. Understanding of ambiguities and complexities for the interpretation and evaluation of events.	Industrial & Banking	1250.500	8153.500	-2.648	.008
	Industrial & Insurance	3067.000	9970.000	-1.489	.136
	Industrial & services	7237.500	14140.500	-.598	.550
	Banking & Insurance	768.500	2598.500	-1.310	.190
	Banking & services	1453.000	9838.000	-2.324	.020
	Insurance & services	3530.000	11915.000	-1.056	.291

**Source:** analysis of questionnaire data

**Table 5. 43:** Kruskal-Wallis test: Intelligent opportunism by company sector

<b>Intelligent opportunism</b>	<b>Chi-Square</b>	<b>df</b>	<b>Asymp. Sig.</b>
1. Find out new competitive areas.	4.472	3	0.215
2. Awareness of participation of middle managers.	9.018	3	0.029
3. Awareness about company strengths and weaknesses.	9.124	3	0.028
4. Consciousness about the main strategic problems of the company.	2.154	3	.541
5. Considering the input of strategies from lower level management suitable for a changing environment.	1.397	3	.706
6. Identifying alternative strategies from people who are more innovative and more creative.	11.537	3	.009

**Source:** analysis of questionnaire data

**Table 5. 44:** Mann-Whitney test company sector vs. usage of intelligent opportunism

Intelligent opportunism	Between groups	Mann-Whitney U	Wilcoxon W	Z	Asymp. Sig. (2-tailed)
2. Awareness of participation of middle managers.	Industrial & Banking	1158.500	8061.500	-3.025	.002
	Industrial & Insurance	3322.000	10225.000	-.614	.539
	Industrial & services	7041.500	13944.500	-.950	.342
	Banking & Insurance	645.500	2475.500	-2.349	.019
	Banking & services	1420.000	9805.000	-2.393	.017
	Insurance & services	3813.500	5643.500	-.170	.865
3. Awareness about company strengths and weaknesses.	Industrial & Banking	1451.500	8354.500	-1.583	.113
	Industrial & Insurance	3261.000	5091.000	-.827	.408
	Industrial & services	6478.500	13381.500	-2.094	.036
	Banking & Insurance	692.500	2522.500	-1.910	.056
	Banking & services	1863.500	10248.500	-.351	.726
	Insurance & services	3079.500	4909.500	-2.463	.014
6. Identifying alternative strategies from people who are more innovative and more creative.	Industrial & Banking	1448.500	8351.500	-1.583	.113
	Industrial & Insurance	3043.500	9946.500	-1.544	.123
	Industrial & services	5797.000	12700.000	-3.331	.001
	Banking & Insurance	874.000	2704.000	-.240	.811
	Banking & services	1796.000	2261.000	-.657	.511
	Insurance & services	3475.000	5305.000	-1.207	.227

Source: analysis of questionnaire data

**Table 5. 45:** The correlation between age of company and the barriers influencing the practice of the strategic thinking process and employee numbers (size of company) and barriers influencing the implementation of the strategic thinking process (n=336 questionnaire).

Implementation problems of the strategic thinking	Age of company	Employee number (size of the company)
Problem 1: correlation coefficient	-.037	-.023
Sig. (1-tailed)	.252	.338
Problem 2: correlation coefficient	-.081	-.065
Sig. (1-tailed)	.069	.118
Problem 3: correlation coefficient	-.124*	-.101*
Sig. (1-tailed)	.011	.032
Problem 4: correlation coefficient	.008	-.064
Sig. (1-tailed)	.441	.122
Problem 5: correlation coefficient	.014	-.048
Sig. (1-tailed)	.397	.191
Problem 6: correlation coefficient	-.169**	-.160**
Sig. (1-tailed)	.001	.002
Problem7: correlation coefficient	-.167**	-.053
Sig. (1-tailed)	.001	.165
Problem8: correlation coefficient	.010	-.043
Sig. (1-tailed)	.426	.214

\*\* . Correlation is significant at the 0.01 level (1-tailed).

\* . Correlation is significant at the 0.05 level (1-tailed).

Source: analysis of questionnaire data

**Table 5. 46:** Kruskal-Wallis test: barriers to the implementation of strategic thinking by company sector.

<b>Barriers to practising strategic thinking</b>	<b>Chi-Square</b>	<b>df</b>	<b>Asymp. Sig.</b>
1. Insufficient integration at all levels of company management.	4.512	3	.211
2. Insufficient programmes introduced to employees to train them in thinking strategically.	8.776	3	.032
3. Unclear benefits of strategic thinking processes to your	7.113	3	.068
4. Applying strategic thinking requires more time which affects the current work of company staff.	4.141	3	.247
5 Inadequate review of company structure, may act as barrier to practise strategic thinking.	3.944	3	.268
6. Inadequate incentive programmes to explore forward thinking and creativity.	12.985	3	.005
7. Inadequate training programmes in order to become strategic thinkers.	3.620	3	.306
8. Insufficient capabilities involved environmental scanning for opportunities and threats.	21.262	3	.000

**Source:** analysis of questionnaire data.

**Table 5. 47:** Mann-Whitney test company sector vs. barriers to strategic thinking process

<b>Barriers of strategic thinking process</b>	<b>Between groups</b>	<b>Mann-Whitney U</b>	<b>Wilcoxon W</b>	<b>Z</b>	<b>Asymp. Sig. (2-tailed)</b>
2. Insufficient programmes introduced to employees to train them in thinking strategically.	Industrial & Banking	1608.000	8511.000	-.750	.453
	Industrial & Insurance	2662.000	9565.000	-2.808	.005
	Industrial & services	6949.000	13852.000	-1.165	.244
	Banking & Insurance	761.000	1226.000	-1.293	.196
	Banking & services	1904.500	10289.500	-.149	.882
	Insurance & services	3148.500	11533.500	-2.282	.022
6. Inadequate incentive programmes to explore forward thinking and creativity.	Industrial & Banking	1533.500	1998.500	-1.183	.237
	Industrial & Insurance	2965.500	9868.500	-1.845	.065
	Industrial & services	6189.500	13092.500	-2.702	.007
	Banking & Insurance	652.500	1117.500	-2.302	.021
	Banking & services	1354.500	1819.500	-2.850	.004
	Insurance & services	3813.500	5643.500	-.178	.859
8. Insufficient capabilities involved environmental scanning for opportunities and threats.	Industrial & Banking	1505.500	1970.500	-1.274	.203
	Industrial & Insurance	3461.500	5291.500	-.160	.873
	Industrial & services	5286.500	13671.500	-4.254	.000
	Banking & Insurance	786.000	1251.000	-1.038	.299
	Banking & services	1603.500	9988.500	-1.540	.124
	Insurance & services	2796.000	11181.000	-3.217	.001

**Source:** analysis of questionnaire data

## **Appendix 7: Jordan: General overview**

Jordan is an Arab Kingdom in the Middle East. In 1946, Jordan gained independence from Great Britain. It is a sovereign state formally known as the Hashemite Kingdom of Jordan. Jordan is a small country which occupies an area of 96188 square kilometres with a population estimated in 2011 at 6.249 million inhabitants, 80% urban. It is one of the youngest among upper-middle income countries with 38% being below the age of 14 (World Bank Group, 2013; Countries of the World, 2013; Central Bank of Jordan, 2011; Amman Trade Point, 2009). It is bordered on the north by Syria, to the east and south by Saudi Arabia, and to the east by Iraq. To the West is Israel and the West Bank, (see Appendix 1) (World Bank Group, 2013). Jordan can be divided into three geographic climate areas: Jordan valley, Badia region or the eastern desert, and the Mountain Heights Plateau. Jordan has a Mediterranean climate with a hot, dry summer, a cool, wet winter and two short transitional seasons and dried desert climates, with less than 200 mm. and over 600 mm. of rain annually in certain parts of the kingdom and average temperature of around 7° to 10° in the winter, 23° to 27°C in summer (Geography and Environment, 2013; Amman Trade Point, 2009).

Arabic is the official language in Jordan, but English is widely spoken, particularly in the business sector (Amman Trade Point, 2009). The demographics of the Kingdom of Jordan show that 98% are Arab, 1% are Circassian and 1% is Armenian. 92% of the population are Sunni Muslim and 6% Christian (majority Greek Orthodox, but some Greek Roman Catholics, Coptic Orthodox, Syrian Orthodox, Armenian Orthodox, and Protestant denominations); the other 2% are Shia Muslim and Druze (CIA the World Fact Book, 2013).

The Jordan economy is free market oriented and is led by a private sector where the ownership of enterprises is largely private, with the exception of public sector involvement in the mining industry (phosphates and potash). Prices, interest rates and wages are generally determined by market forces. Jordan's economy is mainly service

oriented. The service sector is comprised of financial services, trade, communication, transportation, education, tourism, and construction. The service sector contributes 71% to GDP and employs two-thirds of the labour force in Jordan, while the agricultural and industrial sectors contribute the remaining 29% to GDP (USAID/Jordan, 2013; Amman Trade Point, 2009). The standard of living, per capita GDP, as reported by the Central Bank of Jordan was JD 3276.8 or US\$4421.7 in 2011 and the GDP US\$ 6000 as estimated for the year 2012 (CIA the World Fact Book, 2013; Central Bank of Jordan, 2011).

In 1996 the Jordanian government initiated a privatization programme which aimed to liberate the national economy, increase the flow of foreign investment capital, and allow and activate the role and the efficiency of private investors (Amman Trade Point, 2009). Jordan exports different commodities, such as clothing, fertilizers, phosphates, potash, vegetables, and pharmaceuticals. On the other hand it imports crude oil, machinery, transport equipment, cereals, and iron (CIA the World Fact Book, 2013).

The Jordanian economy depends on international aid and remittances from expatriates (Index of Economic Freedom Score, 2013). The Jordan government worked to liberalize trade, getting access to the World Trade Organisation (WTO) in 2000, signing an Association Agreement with the European Union (EU) in 2001 and securing the first bilateral Free Trade Agreement between the United States and Jordan in 2001 that allows Jordanian exporters access to the largest market. Jordan was granted the opportunity to establish Qualifying Industrial Zones (QIZ) in 2000 which provide duty and quota free access for products manufactured in Jordan in the designated areas to increase exports to the U.S. market (Index of Economic Freedom Score, 2013; Amman Trade Point, 2009). The QIZ qualification is managed through a joint group appointed by the Israeli and Jordanian governments. There are many advantages gained from the Qualifying Industrial Zone in Jordan (QIZ) such as; zero quotas on production in the QIZ, both income and social services are exempt from tax, no custom duties are imposed on imported raw materials, building and land available for lease or sale, tariff and duty free access to the

USA market, and no restrictions on project ownership and on foreign currency transactions (Amman Trade Point, 2009).

The Amman Financial Market (AFM) was established in 1976, and then renamed the Amman Stock Exchange in March 1999 as a non-profit, private agency with administrative and financial autonomy in charge of running the market. The Amman stock exchange is authorized as a formal market to function as an exchange for trading securities in the Kingdom of Jordan. Membership of the Amman Stock Exchange (ASE) is made up of financial brokers and has been administered by the private sector since it started operations in 1999. It is considered to be one of the most efficient stock exchanges in the Arab world that permits foreign investment. Securities are traded electronically where the total capitalization reached more than 19.1 Billion JD in 2012, as compared to nearly JD 286 Million by the end of the year 1978. The number of listed shareholdings companies went up from 66 in 1978 to 243 by the end of the year 2012 (Amman Stock Exchange, 2013). A wide spectrum of shareholdings companies were listed in Amman Stock Exchange in 2011: 261 shareholdings companies in the industrial (75 companies), Banking ( 15 companies), Insurance (27 companies), and service sectors (144 companies) (Securities Depository Center, 2011).

The first date of establishment of Jordanian public shareholding companies was 1930. The Arab Bank was the first public shareholding company established in Jordan in 1930, followed by Tobacco and Cigarettes Company in 1931, Jordan Electric Power Company operated in 1938, and Jordan Cement Factories established in 1951 (Amman Stock Exchange, 2013).