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Strategic Thinking, Organizational Foresight, and Strategic Planning in High-tech SMEs in the UK

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Strategic Thinking, Organizational Foresight, and Strategic Planning in High-tech SMEs in the UK

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Bangor Business School

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Abstract

In today's highly turbulent business environments with their high degree of uncertainty, survival and growth of the tech-based Small and Medium-sized Enterprises (SMEs) has become an unavoidable challenge for their leaders. The reports reveal a considerable ratio of failure among SMEs, yet they strongly emphasize the vital role played by SMEs in developed and developing economies; hence, it can be inferred that their survival and growth lead to economic prosperity. Recently, the roles of Strategic Thinking, Organizational Foresight and Strategic Planning, as significant management tools in SMEs, have drawn more attention among scholars. Therefore, this study's objective is to investigate the mediating role of Strategic Planning on the relationship between Strategic Thinking and Organizational Foresight and firm performance in SMEs operating in the United Kingdom's high-tech (Telecommunications, Information Technology, and Software Development sectors with firm performance) sector. This study's conceptual framework has been developed grounded on the synthesis of existing literature in the subject field.

The current study applies quantitative methodology and survey as its selected method of research. These choices were based on the high number of SMEs and their widespread distribution across the United Kingdom. A five-point Likert-type scale was chosen to examine opinions of the respondents. The results demonstrated that applying strategic thinking by managers can enhance their SMEs' performance. Besides, they can use strategic planning in their strategy-making processes to mediate the impact of strategic thinking on firms' performance. Moreover, the results did not show any significance in using strategic planning as a mediator between organizational foresight and SMEs' performance.

Keywords: Strategic Thinking, Organizational Foresight, Strategic Planning, High-tech, SMEs, Performance

Dedication

*With love and faith to
my beautiful wife, Roya, the bravest woman I have ever seen
and to my parents, Setareh and Hossein, the pillars of this foundation*

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This journey would not have been ended without the support and encouragement of many extraordinary individuals.

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Table of Contents

Chapter one: Introduction	1
1.1 Introduction.....	2
1.2 Research background	2
1.2.1 Strategic thinking	2
1.2.2. Organizational Foresight.....	4
1.2.3. Strategic planning	6
1.2.4. Firm performance.....	8
1.3. Rationale of study	9
1.4. Research objective and questions	13
1.5. Methodology	16
1.6. Structure of the thesis.....	16
Chapter Two: Literature Review.....	18
2.1. Introduction.....	19
2.2. The importance of SMEs	19
2.3. Definition of SMEs	20
2.3.1. Strategic thinking in SMEs	22
2.3.2. Elements of strategic thinking.....	27
2.4. Strategic planning in SMEs.....	32
2.4.1. The downfall of strategic planning	39
2.4.2. Mintzberg’s controversial publications.....	40
2.5. Strategic thinking and strategic planning.....	41
2.6. Foresight	44
2.7. Foresight and strategic thinking	49
2.8. Firm performance.....	50
2.9. Chapter summary	52
Chapter three: Conceptual Framework	53
3.1. Introduction.....	54
3.2. Strategic thinking variable	54
3.2.1. Systematic thinking.....	55
3.2.2. Creative thinking.....	55
3.2.3. Vision-driven thinking	55
3.2.4. Market-oriented thinking	56
3.3. Organizational foresight.....	57
3.3.1. Environmental scanning.....	63
3.3.2. Strategic selection	67

Strategic selection	67
3.3.3. Integrating capabilities	70
3.4. Strategic planning	72
3.4.1. Mission statement	73
3.4.2. Trend analysis and competitor analysis	74
3.4.3. Long-term goals and annual goals	75
3.4.4. Ongoing evaluation	76
3.5. Short-term action plans	76
3.6. Firm performance.....	77
3.7. The conceptual model	80
3.9. Chapter summary	83
Chapter four: Methodology.....	84
4.1. Introduction.....	85
4.2. Research steps	85
4.2.1. Research philosophy	85
4.3. Advantages and disadvantages of the philosophies	90
4.3.1. Positivism.....	90
4.3.2. Interpretivism.....	90
4.4. Positivism or interpretivism?	90
4.5. Research approach	92
4.5.1. Deductive: an approach to test a theory	93
4.5.2. Inductive: an approach to build a theory	94
4.6. Data collection	99
4.7. Sampling	108
4.8. Questionnaire design.....	108
4.9. The construction of the questionnaire and sample of the study	111
4.10. Pilot Study.....	113
4.11. Chapter summary	114
Chapter five: Data analysis	115
5.1. Introduction.....	116
5.2. Descriptive statistics	116
5.2.1. Age.....	116
5.2.2. Gender.....	117
5.2.3. Work experience	118
5.2.4. Position	119
5.2.5. Education	121
5.2.6. Firm's age	122

5.2.7.	Firm's location	123
5.2.8.	Number of employees in the firm	123
5.2.9.	Industry sector.....	125
5.2.10.	Descriptive statistics of research variables	126
5.3.	The research variables' descriptive analysis	127
5.3.1.	Strategic thinking's descriptive statistics	128
5.3.2.	Organizational foresight's descriptive statistics.....	132
5.3.3.	Strategic planning's descriptive statistics	146
5.3.4.	Firm performance's descriptive statistics.....	148
5.4.	Inferential statistics	153
5.5.	Research model test	154
5.6.	AMOS application for current research	155
5.7.	Data measurement model.....	155
5.7.1.	Validity criteria of the research model.....	155
5.7.2.	Measurement model reliability test.....	159
5.8.	Model fit statistics	162
5.9.	Evaluation of model's predictive ability by R2	164
5.10.	Construct structural model	165
5.11.	Mediating effect of strategic planning	169
5.12.	Chapter summary	174
Chapter six:	Findings and discussion.....	175
6.1.	Introduction.....	176
6.2.	The research hypotheses	177
6.2.1	Strategic thinking and firm performance	177
6.2.2.	Organizational foresight and firm performance	179
6.2.3.	Organizational foresight and strategic planning	185
6.2.4.	Strategic thinking and strategic planning.....	189
6.2.5.	Strategic planning and firm performance.....	190
6.3.	Chapter summary	193
Chapter Seven:	Conclusion.....	194
7.1.	Introduction.....	195
7.2.	Revisiting the study's research questions and objectives	196
7.3.	Summary of major findings	197
7.4.	Theoretical contributions	200
7.5.	Policy implications.....	202
7.6.	Managerial implications.....	203
7.7.	Generalizability of finding	204

7.8. Limitations of the study	205
7.9. Further research suggestions.....	205
References.....	207

List of figures

Figure 4. 1. Surveys	101
Figure 4. 2. Research Committee's approval letter.....	112
Figure 5. 1. Sample categorization by age	117
Figure 5. 2. Respondents' gender.....	117
Figure 5. 3. Sampling based on work experience	118
Figure 5. 4. Sample categorization based on position.....	120
Figure 5. 5. Sample description based on education.....	121
Figure 5. 6. Sample description based on firms' age	122
Figure 5. 7. Sample description based on firms' location.....	123
Figure 5. 8. Description of the sample based on the number of employees.....	123
Figure 5. 9. Sample description based on the industry sector	126
Figure 5. 10	168
Figure 5. 11. Regression results for testing the mediating effect.....	171
Figure 5. 12. Regression results for testing the mediating effect.....	171
Figure 5. 13. Regression results for testing the mediating effect.....	172
Figure 5. 14. Regression results for testing the mediating effect.....	173
Figure 6. 1	Error! Bookmark not defined.
Figure 6. 2. Regression results for testing hypothesis H1	177
Figure 6. 3	179
Figure 6. 4. The association of environmental scanning and firm performance	181
Figure 6. 5. The association of strategic selection and firm performance	182
Figure 6. 6. The association of integrating capabilities and firm performance.....	184
Figure 6. 7. The association of environmental scanning capabilities and strategic planning	186
Figure 6. 8. The association of strategic selection and strategic planning	187
Figure 6. 9. The association of integrating capabilities and strategic planning	188
Figure 6. 10. The association of integrating capabilities and strategic planning	189
Figure 6. 11. The association of strategic planning and firm performance.....	191

List of tables

Table 1. 1. Research questions, research objectives, and research hypotheses.....	15
Table 2. 1. Definitions of strategic thinking	24
Table 3. 1. Strategic thinking items	57
Table 3. 2. Weak tie items	66
Table 3. 3. Strong tie items	67
Table 3. 4. Strategic planning items.....	72
Table 3. 5. Components of mission statement	74
Table 3. 6. Firm performance items	79
Table 3. 7. The research question, objectives, and hypotheses	80
Table 4. 1. Philosophies' perspectives	89
Table 4. 2. Main features of positivist and interpretivist approaches	91
Table 4. 3. Qualitative and quantitative	97
Table 4. 4. Elements which affect responses	100
Table 4. 5. Data collection methods.....	102
Table 4. 6. Questionnaire types.....	104
Table 4. 7. Main attributions of questionnaires.....	105
Table 5. 1. Age of respondents and their work experience.....	119
Table 5. 2. Respondents' job position and their gender.....	120
Table 5. 3. Respondents' level of education and their age.....	122
Table 5. 4. Firms' number of employees and their industry sector.....	124
Table 5. 5. Firms' number of employees and the age of the firms.....	125
Table 5. 6. Statistical indicators of research variables	126
Table 5. 7. Dependant and independent variables' descriptive statistics	127
Table 5. 8. Descriptive statistics of systematic thinking	128
Table 5. 9. Descriptive statistics of market-oriented thinking	129
Table 5. 10. Market-oriented thinking	130
Table 5. 11. Descriptive statistics of creative thinking	131
Table 5. 12. Correlation of creative thinking items	131
Table 5. 13. Descriptive statistics of vision-driven thinking	132
Table 5. 14. Descriptive analysis of strong tie sources	133
Table 5. 15. Correlation table of strong tie sources	134
Table 5. 16. Descriptive analysis of weak tie sources.....	134
Table 5. 17. Correlation table of weak tie sources.....	135
Table 5. 18. Descriptive analysis of time horizon.....	136

Table 5. 19. Correlation table of time horizon	136
Table 5. 20. Descriptive analysis of depth of scanning.....	137
Table 5. 21. Correlation table of depth of scanning.....	138
Table 5. 22. Descriptive analysis of analysing.....	138
Table 5. 23. Correlation table of analysing dimension	139
Table 5. 24. Descriptive analysis of visioning	140
Table 5. 25. Correlation table of visioning	140
Table 5. 26. Descriptive statistics of planning	141
Table 5. 27. Correlation table of planning	142
Table 5. 28. Descriptive statistics of leadership.....	143
Table 5. 29. Correlation table of leadership.....	144
Table 5. 30. The descriptive analysis of coordination	144
Table 5. 31. Correlation table of Coordination	145
Table 5. 32. Descriptive statistics of knowledge base	145
Table 5. 33. Correlation of knowledge base items.....	146
Table 5. 34. Descriptive analysis of strategic planning items.....	147
Table 5. 35. Correlation of strategic planning items.....	148
Table 5. 36. Descriptive statistics of profit	149
Table 5. 37. Correlation of profit items	149
Table 5. 38. The descriptive statistics of sales.....	150
Table 5. 39. Correlation of sales items.....	151
Table 5. 40. Descriptive statistics of market share.....	151
Table 5. 41. Correlation of market share items.....	152
Table 5. 42. The descriptive statistics of profit employment growth.....	152
Table 5. 43. Correlation test between research variables.....	153
Table 5. 44. KMO and Bartlett's Test	156
Table 5. 45. Factor analysis results	157
Table 5. 46. Reliability of the research model variables.....	160
Table 5. 47. Convergent validity values	161
Table 5. 48. The model fit's major indexes	163
Table 5. 49. CMIN	164
Table 5. 50. Baseline Comparisons.....	164
Table 5. 51. RMSEA.....	164
Table 5. 52. AIC.....	164
Table 5. 53. The reported variance of R^2 of the groups.....	165
Table 5. 54. Regression weights	165

Table 5. 55. Construct structural model.....	169
Table 5. 56. Mediating effect of strategic planning	173
Table 6. 1. Statistical characteristics of the variables	177
Table 6. 2. Construct structural model.....	178
Table 6. 3. Construct of the structural model.....	181
Table 6. 4. Construct structural model.....	183
Table 6. 5. Construct structural model.....	185
Table 6. 6. Construct structural model.....	186
Table 6. 7. Construct structural model.....	188
Table 6. 8. Construct structural model.....	189
Table 6. 9. Construct structural model.....	190
Table 6. 10. Construct structural model.....	191

Chapter one: Introduction

1.1 Introduction

Among scholars and practitioners in the strategic management area, there has been an increasing interest in strategic thinking. Current research predominantly tries to concentrate on small and medium-sized enterprises' (SMEs) strategic thinking. This study discusses empirical outcomes and theoretical debates that argue related elements of strategic thinking. This chapter discusses the topic of the research, it also points out the background of the research and involves prior studies extensively along with the theories associated with strategic thinking, strategic planning, and organizational foresight.

The research questions and objective of the study are discussed in this chapter; furthermore, there are arguments and recommendations about the way these could cover the existing gap in the previous research, to help answer the research questions. Moreover, the research design and methodology are discussed, and the survey outline is explained briefly.

1.2 Research background

1.2.1 Strategic thinking

Strategic thinking has always been an essential feature of strategy research. There are numerous scholars such as Porter (1987, 1996) and Pagani and Otto (2013) who have stressed the necessity of strategic thinking in companies. Petrakis et al., (2016) cited in Mintzberg (1994a) considered strategic thinking and strategic planning to be dissimilar. They believed that strategic planning plunders strategic thinking since the leaders cloud a genuine vision with numbers' manipulation. They continued that the most ground-breaking strategies are not the plans, they are the visions. According to Sarasvathy (2001), under uncertainty circumstances, future opportunities are undiscoverable by entrepreneurs even by applying the techniques of

scenario planning and other tools of prediction. However, they must form their own future themselves by the creation of new business opportunities.

According to Bonn (2001), strategic thinking is the main challenge for top managers of organizations. Studying the literature reveals that there is increasing attention on strategic thinking particularly in SMEs (Pagani and Otto, 2013). Hisrich and Peters (2001) believed the way that SMEs and new ventures practice strategic thinking in their activities is the practitioners' focus. Mainly, they try to focus on large firms to understand why they are more effective in thinking strategically than SMEs, whereby strategic planning and strategic thinking are the organizations' main function.

According to Gibson and Cassar (2002), generally, new ventures and particularly SMEs do not use a high degree of strategic thinking whereas large organizations that practice it widely are more prosperous. In view of the essentiality of SMEs' strategic thinking, the governments and administrators try to stress activities related to strategic thinking to train and develop them in organizations. Regardless of the organization's size, they need to practice strategic activities and use particular strategies to attain the objectives of the organization (Kraus, 2007). Bernut, (2009) pointed out strategic behavior, especially when the firm is active in a competitive atmosphere, is the vital feature of high performance and growth. Graetz (2002) argued the major responsibility of the organization is forming a suitable strategy; and for pursuing such a task, strategic thinking and strategic planning are two vital elements.

Moon (2013) illustrated that there is an association among strategic thinking and processes that analyze the existing strategic environment of the company. In addition, it provides an organization's future understanding and new ideas are the other outcome of it. Furthermore, it advances the organization's perception of its competitors. Harris and Ogbonna (2006) believed strategic ideas are used by strategic planning to enhance the organization's business plans

which are perceived as a roadmap for the company's strategies. According to Bonn (2001), although numerous organizations benefit from exceptional strategic planning skills they are not profoundly benefiting from strategic thinking. Such imbalance in an organization's strategic behavior results in strategic insanity. Consequently, companies repetitively practice the same strategies and expect to attain different results. Additionally, Bernhut (2009) stressed that companies instead of practicing on a daily basis, should consider strategy solely to react to changes in the environment. The capability of thinking strategically is a vital requirement for enterprise managers at diverse levels and it is one of the most important activities which can raise growth and performance.

Previous strategic thinking research has concentrated on the concept and its essentiality, its process, its methods, its development, and the consequences and assessment (Vishnevskiy et. al., 2015; Goldfarb & Yang, 2009; Goldman, 2007, 2008; Allio, 2006; Fairholm & Card, 2009). Hence, the studies which examine the effect and antecedents of strategic thinking in SMEs are limited. As a result, current research attempts to cover the gap in the literature by recognizing the strategic thinking's elements in SMEs and illustrate a framework which represents the associations of organizations' variables with strategic thinking.

1.2.2. Organizational Foresight

Foresight definitions are numerous in the literature (Amsteus, 2008); mostly, the term has been misperceived and there is no broadly recognized definition for it (Major et al., 2001). Although presenting a deeper insight of foresight can be the consequence of such a multi-feature definition, in an opposite way it could lead to a tricky situation that might result in being lost (Hutzschenreuter and Kleindienst, 2006). Lack of a prescribed definition might hinder the progression of the subject (Amsteus, 2008).

Major et al., (2001) argued there is ambiguity about whether the foresight discussion is about a human attribute process or a competency, or a countrywide program. According to Stringfellow and Maclean (2014), foresight indicates a broad category of studies, programs, techniques, and activities of future perspectives. Various different focuses are the cause of the misunderstanding; the foresight phenomenon is approached and analyzed itself and its outcomes as a tool or procedure (Hadfield 2005; Amsteus 2008; Greenstein 2005).

Foresight can be approached as a behavior which is concealed and/or unconcealed. Major et al., (2001) pointed out that literature shows that the debates are unsuccessful in revealing its meaning. Tsoukas and Shepherd (2004) asserted foresight indicates the capacity of having a perspective over the complex situation to understand the future trends whilst the trends are still developing, recognizing patterns before they are completely seen, and to understand associated features of social streams that are able to have an influence on future conditions. Stringfellow and Maclean (2014) believed foresight procedures can change future situations. Additionally, it has an impact on the future by presenting various probable futures that result in a description of the preferred future.

Major and Cordey-Hayes (2000) revealed that previous studies show that SMEs deeply depend on the ideas and skills of their personnel. Usually, they agonize over the scarcity of resources and time and they do not benefit from the long-standing approach. There are various lifestyle companies which have no intention of growth. Simply, they operate to answer their manager/owner's short-standing needs. Nevertheless, there probably is a reason for the short-term orientation; their reaction to foresight is doubtful and generally they do not practice it, or they react. In fact, altering such approaches might be difficult. There are not many SMEs which use foresight alongside a long-standing proactive perspective; their foresight knowledge might not be outstanding, but their managers show a significant foresight culture. The future in such

organizations is understood as an opportunity, not as a threat. Rohrbeck et al., (2015) argued that nowadays foresight is comprehensively practiced indicating extensive sets of methodologies and views. The aim is to enhance procedures of decision-making that are related to the future by identifying and examining change drivers and trends that emerge.

In this research, the term organizational foresight has been used as one of the main research variables. According to Rohrbeck (2010), organizational foresight has been defined as a combination of environmental scanning, strategic selection and integrating capabilities as the sets of capabilities which allow firms to perceive disruptive change at its early phase and distinguish its effects on the firm. This helps firms to formulate their response to change in order to achieve superior performance towards the future.

1.2.3. Strategic planning

There are studies which stress the existing popularity of strategic planning and its usefulness as a tool for change (Rigby & Bilodeau, 2011; Whittington & Cailluet, 2008). Nevertheless, decades ago strategic planning was perceived as an essential tool and currently, it is known as a valid practice. Additionally, in an uncertain environment, it is a vital tool for managers (Liu et al., 2008). According to Wolf and Floyd (2017), examining the literature reveals that there is a range from strategic planning to strategy procedures in the stream of studies. There are two chief debates in the area, where approaches of emergence and planning are the cores (Wolf and Floyd, 2017; Mintzberg and Lampel, 1999; Mintzberg and Waters, 1985; Ansoff, 1991).

Wolf and Floyd (2017) pointed out strategy as signifying an organization's long-standing objectives and taking suitable actions based on the objectives. Conventionally, the duty of planning strategies was carried out by high level management whereas implementing was the responsibility of other levels of managers (Ansoff, 1965; Anthony, 1965). There is a rising challenge for conventional work divisions which is a consequence of the increased level of

uncertainty in the past decades. Presently, it has been debated that strategic decision making is not the restricted action of top managers and it needs to be carried out participatively (Floyd and Wooldridge, 2000; Kaplan and Norton, 2001, 2008).

A planning approach is analytical and rational towards activities in companies which create a strategic direction. Alternatively, the emergence view represents an examination of social procedures to clarify and implement strategies (Dibrell et. al., 2014; Mantere and Vaara, 2008). However, Brews and Hunt (1999) discussed weak performance and trial and error as the results of the operation of companies that suffer from a lack of planning and this harms the SMEs. Meanwhile, rigorous strategic planning leads to the creation of capacity in companies that indicates novel strategies which increase competitive advantage (Wolf and Floyd, 2017; Liedtka, 2000).

Brinckmann et al., (2010) argued small businesses can benefit from planning to clarify their objectives and enhance them, even though they suffer from limited resources. Dibrell et. al., (2014) pointed out that the deficit in strategic planning's deployment is the main reason for the failure of organizations. Deployment is challenging and the cause of failure in various enterprises. The studies which evaluate strategy-making in SMEs are few (O'Regan and Ghobadian, 2004). Although large enterprises mainly were the subject of the studies, few of them examined the issues which enterprises encounter while deploying strategic plans (O'Regan and Ghobadian, 2002). However, strategic planning deployment can be eased by recognizing probable obstacles and roots. Moreover, the systematic view inherently exists in the development of strategic procedures and needs to raise an alertness of the probable barriers to deployment of strategic plans efficiently (Beer and Eisenstat, 2000). Elbanna et al., (2016) asserted the major cause of the failure of SMEs' strategic deployment is that they suffer from a deficit of capability to understand and tackle the probable barriers of implementation.

Researchers, namely Beer and Eisenstat, (2000) and O'Regan and Ghobadian, (2002), revealed that the failure of implementing strategic planning in SMEs is a result of external and internal barriers. Internally, SMEs struggle with communication deficit, implementing long-term procedures, staff's deficit of skills, shortage of understanding of strategic objectives and implementing strategies but coordinating ineffectively. Externally, SMEs suffer from a shortage of consideration of implementation because of crises they face, unforeseen external challenges and other factors that have an influence on implementation processes.

1.2.4. Firm performance

Various scientists have stressed the dissimilar elements of company performance measurement (Dibrel et al., 2014). For researchers, choosing a suitable factor for measuring the outcomes of the organization has been challenging. An enterprise's growth is the chief factor for measurement. In the past years many scholars have stressed the vitality of growth and its effect on increasing profitability and competitive advantage (Markman and Gartner, 2002).

Dibrel et al., (2014) asserted that the performance of an organization has two features; growth and financial performance. Moreover, measuring the performance by considering only the financial aspect is not suitable for all companies. Thus, various factors need to be used namely "return on sales"; "market share growth", and "sales growth" (Rudd et al., 2008; Titus et al., 2011). According to MacMillan and Day (1987), increase of profitability of the organization is a result of high growth since entering novel markets leads to additional profit. In contrast, Hoy et al., (1992) stated that firm profitability is not always positively affected by high growth since other factors have an influence on it namely, size of the organization, a company's years since establishment and its sector in the industry (Delmar et al, 2003). In SMEs, growth and financial performance need to be used individually to measure performance. Delmar et al., (2003) stated one of the elements of organization performance is sales and its rate is accessible in all

enterprises. Additionally, the growth of the firm might not be measured by sales figures; for instance, firm growth might not be indicated in tech-based enterprises that have high growth in HR. As a result, ‘employment rate’ and ‘asset’ need to be used as two other measures (Foreman-Peck et al, 2006).

Generally, it is challenging to choose a single element for the measurement of performance. There are quantitative and qualitative elements which can be used according to the measurement based strategic management literature (Hunger and Wheelen, 1993; Greenly, 1994). The performance can be measured by various indicators namely, “sales”, “growth”, “return on productivity” and “financial ratios” (Shrader et al., 1984). This study recognized that despite the significance of an empirical study examining the impact of strategic thinking on SME performance, there is a gap in this area. Hence, the main objective of the current research is to present a direct answer to the existing gap in the literature.

1.3. Rationale of study

Karami (2012) argues that SMEs are perceived as a vital factor for increasing employment in countries around the world, raising competition, and enhancing growth in economies. Lazányi (2015) pointed out SMEs are believed as the lifeblood of a country’s economy. In addition, SMEs help large enterprises by delivering them new products through their innovative activities. If they fail in producing such products their market share will be decreased as they lose their competitive advantage. Additionally, large enterprise and SME collaboration can create a balance among market and industry via enhancing the competitive environment (Peacock, 2004).

According to Mallett et. al., (2018), SMEs play a vital role in a country’s economy. In many countries around the world the number of SMEs is considerably high, countries such as the

UK, USA, Japan etc. In comparison with large enterprises, SMEs are more capable of understanding the opportunities of the markets and they can go into them by producing new products hence they can maintain their market share while large enterprises are not eager to enter as they are economically not risk takers.

However, according to Nicholas et al., (2011), SMEs suffer from restricted resources to enhance their R&D activities so their share in innovation is considerably important. Moreover, the study discussed that many researchers stress that SMEs are more advantageous than large enterprises as they have a flat structure, their layers of management are fewer, they are more agile and accept change more than large enterprises. Hence, nowadays they are becoming more interesting for authorities and governments since they are an important element of the world's economy (Kraus, 2007).

Kraus (2007) stressed SMEs in the private sector employed 50% of US employees while their GDP generation is 50%. In addition, the job opportunities which SMEs generate is between 60-80%. Small businesses have less than 100 employees and medium firms have less than 250 employees. After Mallett et. al., (2018) believed that new job generation by small businesses is beyond large enterprises, scholars became interested in new ventures which are seen as a sub-category of SMEs.

The growing essentiality of SMEs creates a need for examining the elements which enhance such an organization's growth (Carter et al., 1994). Kraus (2007) argued that considering the high failure rates of SMEs and their low profitability (particularly in new ventures), scientists, managers and governments need to study such elements. Moreover, the study argued that strategic planning is one of the influential elements and there are various empirical studies which stress the association among the performance of firms and strategic planning.

Klačmer Čalopa (2017) pointed out that there is an extensive use of strategic management among large enterprises but SMEs practicing it is rare. Since SMEs suffer from restricted access to resources, it is vital for them to use strategic techniques to avoid failure and attain better performance. Additionally, suffering from a lack of knowledge and not having a clear strategy and tools for decision-making is the major weakness of SMEs. The SMEs which practice strategic techniques are rare and usually SME managers depend on their intuition rather than theory. Consequently, for new ventures and particularly in SMEs strategic management is introduced as their major issue.

In the past years strategic thinking has been pointed out as a vital feature of strategy studies and scholars such as Porter (1987, 1996) and Pagani and Otto (2013) argued on its significance for organizations. Additionally, strategic thinking is discussed as the main challenge for executives in organizations (Bonn, 2001). Studying previous research reveals that there is increasing attention and interest in strategic thinking, specifically among SMEs (Pagani and Otto, 2013).

As a result, the practitioners' concentration is on how strategic thinking is being practiced by SMEs and new ventures. Especially, considering that strategic thinking and strategic planning are the two vital functions in all organizations, they try to discover the reason for the success of large enterprises, rather than SMEs, in strategic thinking (Hisrich and Peters, 2001). Furthermore, comparing SMEs and large enterprises reveals that the level of strategic thinking practice in the former is low while in the latter it is more proper, and they use high levels of strategic thinking (Gibson and Cassar, 2002). Since strategic thinking is essential to SMEs, it needs to be trained and developed by policymakers and governments for enterprises. Apart from the size of the enterprises, it is vital for them to develop strategic activities to be able to obtain an organization's objectives (Kraus, 2007).

Bernut (2009) pointed out that strategic behavior is the key factor of high performance and growth in enterprises, particularly if they are operating in a competitive atmosphere. Strategic thinking and strategic planning are the two vital elements of designing proper strategies which are the major task of the organization (Graetz, 2002). Bonn (2001) asserted that whilst most of the enterprises benefit from high strategic planning skills, they do not deal with strategic thinking deeply. Such imbalance causes strategic insanity in those enterprises. As a result, such firms always repeat the same strategies whilst they believe they can achieve different outcomes. Additionally, organizations usually react to changes in the environment by using strategy, instead of using it on a daily basis.

Previous empirical research on strategic thinking has mainly focused on its essentiality, its process, its methods and techniques, its development, and its consequences and evaluation (Liedtka, 2016; Goldfarb and Yang, 2009; Fairholm and Card, 2009; Goldman, 2007, 2008; Allio, 2006). However, according to O'Regan and Ghobadian (2002), the studies assessing the influence and background of strategic thinking in SMEs are rare. Therefore, this study tries to respond to the existing gap in its background of studies by recognizing the factors of strategic thinking in SMEs and present a model which shows the associations of enterprises' variables to an SME's strategic thinking.

Noble (1999) believed that since SMEs suffer from the limited capability to clarify and tackle implementation barriers, they fail to deploy strategy. Previous studies showed that the barriers of strategic planning implementation are external and internal in SMEs (O'Regan and Ghobadian, 2002; Wessel, 1993). And though there is a broad range of theoretical research on strategic planning, application of the results of such studies is moderately rare (Stonehouse and Pemberton, 2002). Frost (2003) discussed that large enterprises deeply understand the essentiality of planning while SMEs do not practice it deeply. In addition, there is not enough

enthusiasm and intensity for strategic planning in them. There is not a high success rate among new SMEs and some studies rate the failure at more than 60 percent. Moreover, when examining SMEs' failure from the management aspect, low performance and probable failure are strongly attached to a lack of strategic management consideration. Indeed, Gupta et al., (2018) revealed a minority of small organizations' owner-managers vividly understood the element by which their customers were persuaded to purchase their products. The enterprises which suffer from strategy deficit have internal drives of financial performance instead of pursuing the goals which are rooted in their marketplace.

Voros (2003) pointed out that foresight is a feature of strategic thinking which tries to enhance achievable strategic choices to evolve the strategy-making procedure and it investigates according to imperfect information and series of alternatives. Foresight is a strategic thinking feature which can lead to action and strategic planning, it cannot be an alternative for strategic planning. In addition, foresight assists the strategy procedure in its development, planning, and execution. Moreover, foresight and strategic thinking illustrate the inquiry: "what might we need to do?"

1.4. Research objective and questions

The current study's research questions have developed by reviewing the literature and they illustrate previous studies in the field of strategy that mostly concentrate on large firms with a focus on strategic planning but that have not examined thoroughly strategic thinking in SMEs. It has been asserted by scholars that strategic management is vital for SMEs for surviving in the turbulent market and attaining competitive advantage. Reviewing the literature reveals that studies on strategic thinking and firm performance are inadequate.

Furthermore, based on Battistella (2014), there is a lack of research which examines the association between foresight and firm performance in SMEs. Moreover, after a decline in strategic planning studies in firms, there is a deficit in the investigation of the relationship between firm performance and strategic planning, hence this study tries to evaluate the mediating role of strategic planning between strategic thinking, foresight and SME performance. The present study's research questions try to apply empirical studies to develop a body of knowledge. The study's research questions are as follows:

Research Question One: Do strategic thinking and organizational foresight have a positive effect on firm performance?

This study aims to recognize whether or not strategic thinking and firm performance enhance SME performance. The study investigates the relationship between strategic thinking and firm performance and further aims to investigate the relationship between foresight and firm performance.

Research Question two: What is the mediating effect of strategic planning on the relationship between strategic thinking, organizational foresight, and firm performance?

The study's second research question examines strategic planning and its role in mediating the relationship between organizational foresight and strategic thinking and SME performance. The study aims to investigate the mediating effect of strategic planning on the relationship between strategic thinking and firm performance; furthermore, it investigates the mediating effect of strategic planning on the relationship between foresight and firm performance.

Accordingly, the research objectives of the research are as below;

Objective one: To investigate the relationship between strategic thinking and firm performance

Objective two: To investigate the relationship between organizational foresight and firm performance

Objective three: To investigate the mediating effect of strategic planning on the relationship between strategic thinking and firm performance.

Objective four: To investigate the mediating effect of strategic planning on the relationship between foresight and firm performance.

Objective five: To investigate the effect of strategic planning on firm performance.

Table 1.1 Summarizes the research questions, research objectives, and research hypotheses.

Table 1. 1. Research questions, research objectives, and research hypotheses

Q1: Do strategic thinking and foresight have a positive effect on firm performance?	Obj1: To investigate the relationship between strategic thinking and firm performance	H1: there is a positive relationship between strategic thinking and firm performance.
	Obj2: To investigate the relationship between organizational foresight and firm performance	H2: there is a positive relationship between environmental scanning capabilities and firm performance H3: there is a positive relationship between strategic selection and firm performance H4: there is a positive relationship between integrating capabilities and firm performance
Q2: What is the mediating effect of strategic planning on the relationship between strategic thinking, foresight and firm performance?	Obj1: To investigate the mediating effect of strategic planning on the relationship between strategic thinking and firm performance.	H5: there is a positive relationship between strategic thinking and strategic planning H6: there is a positive relationship between environmental scanning capabilities and strategic planning
	Obj2: To investigate the mediating effect of strategic planning on the relationship between foresight and firm performance.	H7: there is a positive relationship between strategic selection and strategic planning H8: there is a positive relationship between integrating capabilities and strategic planning
	Obj3: To investigate the effect of strategic planning on firm performance.	H9: there is a positive relationship between strategic planning and firm performance H10: strategic planning has a mediating effect between strategic thinking and firm performance. H11: strategic planning has a mediating effect between foresight and firm performance.

1.5. Methodology

The current study applies a quantitative methodology and a survey method has been used for data collection. Due to the large number of SMEs in the UK and the fact that they are geographically widespread, a survey has been applied. Furthermore, the questionnaire was the instrument to collect primary data from the sample firms.

1.6. Structure of the thesis

The thesis includes seven chapters: Introduction, Literature review, Conceptual framework, Methodology, Data analysis, Finding and discussion, and Conclusion. In chapter two, literature review, the associated theories and studies are discussed. Furthermore, the relevant arguments of strategic management and SME performance have been presented. Additionally, the research hypothesis development has been represented. In chapter three, conceptual framework, the materials from chapter two have been discussed and synthesized to develop variables, research objectives, and hypotheses. This establishes grounds for a methodology chapter which is chapter four.

The methodology chapter discusses the methods to provide certain steps to attain the study's objectives. The different aspects of research have been argued. Furthermore, different research approaches and research philosophies and research strategies have been described and the current study's approach, philosophy, and strategy have been clarified in the chapter.

Chapter five, data analysis, reveals the results of the data analysis of the study. Moreover, the chapter will interpret the outcomes of the data analysis and their association with the research questions. In addition, the descriptive analysis results will be presented to provide a clear picture of data distribution and the most appropriate method for hypotheses testing. Moreover, a multivariate analysis of study variables will be presented and argued.

Chapter six, findings and discussion, is based on a review of research questions and hypotheses. Additionally, the results of the descriptive and statistical analysis will be discussed. Moreover, the results of data analysis will be discussed and their relationship with the hypotheses. Plus, the results will be compared to previous studies' findings.

Chapter Two: Literature Review

2.1. Introduction

The current chapter discusses relevant theories, studies, and models to illustrate strategic thinking, foresight, strategic planning, and firm performance in an SME context. The initial section explains the issues related to strategic management and SME performance. Afterward, the association between strategic thinking, foresight, strategic planning and firm performance are discussed in order to clarify the development of research hypotheses. Finally, the summary of the chapter is presented in the final section.

2.2. The importance of SMEs

Small and medium-sized enterprises (SMEs) are considered an important source in enhancing employment, developing innovation, generating competition, and improving economic growth (Karami, 2012). SMEs are known as the lifeblood of the economy (Madanchian et al., 2015). SMEs deliver products to large sized companies and are required to be more innovative in producing new and novel products. Failing to generate such products and innovations leads to losing their competitive ability and as a consequence their market share (Johnson and Schaltegger, 2016). Moreover, the cooperation of SMEs and large firms enhances the competitive environment which creates a balance between the industry and market (Peacock, 2004).

Therefore, the capability of SMEs is a crucial element in an economy. A high majority of businesses in countries such as the United Kingdom, Australia, and the USA are SMEs; for instance, 99 percent (5.2 million) in the UK (Ward and Rhodes, 2014) more than 99 percent in the USA (Theyel and Hofmann, 2015) and more than 99 percent in Australia. Consequently, the importance of their role in the global economy has been well documented in the literature (Wang et al., 2007). SMEs are more capable than large firms in recognizing the market

opportunities, to enter them with new products to keep market share while large organizations, due to an economic risk averse attitude, are reluctant to enter (Love and Roper, 2015). While SMEs have a scarcity of adequate resources to invest more in research and development they still carry on an important role in innovation (Nicholas et al., 2011). A great deal of research states that SMEs have more advantages than large-scale firms due to a flat structure and fewer management layers, reacting quickly to the business environment, with more flexibility and low change resistance (Nicholas et al., 2011). As a consequence, SMEs progressiveness is a distinctive factor in the global economy hence nowadays countries, governments and policymakers place more emphasis on them (Kraus, 2007).

2.3. Definition of SMEs

In the past decades, SMEs have been widely used to determine a country's development in the economic aspect. A large fragment of business exists in this gap between microbusinesses and large organizations. The opportunities that SMEs provide and the challenges which they face are noticeably dissimilar from microbusinesses and large-scale firms (Gibson and van der Vaart, 2008). Considering the importance of SMEs as the backbone of an economy, there are various definitions for SMEs in different countries and institutions based on diverse criteria such as value added, asset value, employee number, and turnover (Karami, 2012).

Generally, researchers and reports define SMEs based on the number of employees or turnover (Karami, 2012). There have been debates amongst scholars and practitioners from various institutions on SMEs. According to Gibson and van der Vaart (2008), World Bank considers SMEs as firms which have less than 300 employees and turnover less than \$15,000,000 and asset value less than \$15,000,000.

According to the European Union Commission (2005) definition, the firms which have less than 10 employees or less than 2 million Euros in annual turnover are classified as micro firms. The number of employees in small firms is less than 50 or turnover less than 10 million Euros. Medium firms include less than 250 employees or less than 50 million Euros. Therefore, employee number in small and medium enterprises is between 50 and 250.

All over the globe, SMEs play a significant role in economies. 50 percent of US employees which are active in the private sector are employed by SMEs and this number generates 50 percent of GDP. Moreover, 60 to 80 percent of new opportunities for jobs per year are created by SMEs. Based on the literature, firms that have less than 100 employees are considered as small businesses and the firms which employ fewer than 500 employees are categorized as medium scale firms. After Birch's (1979) research which indicated that small businesses generate more new job opportunities than large-sized organizations, new business ventures, which are considered a subcategory of SMEs, has become an interesting area among scholars (Kraus, 2007).

According to Sommer (2015), the increasing importance of SMEs as a source for innovative activities, job opportunity creation, and creation of a competitive atmosphere among the firms leads to a necessity to study which factors could have a positive impact on growth. Due to numerous rates of failure and low profitability in SMEs and specifically new ventures, studying the mentioned factors is a highly important area for scholars, policy makers, managers of the firms, and entrepreneurs. Along with the popularity of the study area, it is confirmed that factors such as human capital (e.g., education level, years of experience, etc.) are influential. Moreover, Kraus (2007) argued that strategic planning is categorized amongst such factors. Actually, there have been various empirical studies that indicate there is an interrelation between strategic planning and performance of the firm.

According to Crick and Spence (2005), High Tech SMEs or HTSMEs are firms using high knowledge and technology, highly skilled employees with high education. Besides, they respond very fast to changes in the environment. However, Crick and Spence (2005) discussed that SMEs may have restrictions on resources and time which can lead to having a reactive strategy. Hence, they need to recognize business opportunities quickly and respond to them. Elfring and Hulsink (2003) pointed out that reactive strategies can result in achieving competitive advantage and superior performance.

Karadag (2015) mentioned that in large-scale firms, techniques of strategic management have been used extensively but are used rarely in SMEs. SMEs have limited access to a high level of resources and markets, therefore, strategic techniques are necessary for them. A lack of strategy is the major reason for their failure in obtaining expected results and better performance. Petrakis and Kostis (2015) argued that the main weakness of SMEs is lack of knowledge of top managers and clear strategy and decision-making techniques for the firms. Only a small number of them have strategic techniques where they rely more on intuition than theory. Therefore, strategic management's value is addressed as a major issue in new ventures specifically SMEs. This study applies the European Union Commission definition to distinguish SMEs.

2.3.1. Strategic thinking in SMEs

In recent years, one of the significant aspects of strategy studies is strategic thinking. Porter (1987, 1996), Besanko et al., (2000) and Pagani and Otto (2013) mentioned the important need for strategic thinking in enterprises. Moreover, strategic thinking is considered a major challenge for top managers and leaders (Bonn, 2001). Reviewing the literature highlighted the fact that there is a growing interest in strategic thinking particularly in SMEs (Pagani and Otto, 2013).

Therefore, the focus of practitioners is on how new ventures and SMEs use strategic thinking for their business activities. Particularly, they attempt to investigate why large companies are more successful than SMEs in thinking strategically while strategic planning and strategic thinking is the major function of any firm (Hisrich and Peters, 2001). Gibson and Cassar (2002) stated that new ventures and specifically SMEs apply a low level of strategic thinking while large-scale firms that use it extensively are more successful. Considering the importance of strategic thinking in SMEs, governments and policymakers place more emphasis and effort to train and develop strategic thinking activities for enterprises. Regardless of a firm's size, they have to apply strategic activities and follow some strategies for achieving the firm's goals. In SMEs, strategic thinking might be presented through top managers' thoughts. Hence, applying strategic techniques in firms assist them with the alignment of strategic thinking (Kraus, 2007).

One of the critical elements of the growth and high performance of the enterprises is strategic behavior, particularly once the firm operates in a competitive atmosphere (Bernut, 2009). Graetz (2002) asserted that the main task of firms is designing a fitted and appropriate strategy and strategic thinking and strategic planning are two essential factors of this task. According to the definition of Moon (2013), strategic thinking has a relationship with procedures which analyze the present strategic environment of the firm. Furthermore, it defines an understanding of the future of the firm and it develops the ideas which are new. Moreover, strategic thinking enhances the firm's perception of its competitors.

There are numerous definitions for strategic thinking in the literature of strategy. Table 2.1 presents some of the definitions of strategic thinking described by strategy scientists.

Table 2. 1. Definitions of strategic thinking

Author	Focus on definition	Definition
South (1981)	Strategic thinking tools or support	Probably strategic thinking, which is a process of thoughts, was first established by military organizations centuries ago. Such organizations understood that it is beneficial to enhance supporting strategic thinking that assists them to concentrate on the appropriate subjects. Furthermore, it presents a mutual reference frame for arguing and approaching strategy.
Struebing (1996)	Strategic thinking functions	Mostly strategic planning harvests less than predicted consequences. Instead of it, firms need to concentrate on strategic thinking which is a dynamic procedure which constantly evaluates operations, missions, and strategies associated with the needs of customers and forces of the market.
Liedtka (1998)	Strategic thinking process basics or features	“Strategic thinking is conventionally defined as creative, disruptive, future-focused, and experimental in nature and seen to be at odds with traditional notions of strategic planning. Redefining strategic thinking in terms of a systematic or holistic view, a focus on intent, thinking in time, a hypothesis-driven approach, and an ability to be intelligently opportunistic integrates the concept more comfortably into the strategic planning process.”
Graetz (2002)		In a fluctuating turbulent and uncertain environment, strategic thinking is a capacity for innovation which is a divergent approach; instead strategic planning which is traditional and convergent, is approached as a core of generating sustainable competitive advantage.
Bonn (2005)		“A way of solving strategic problems that combines a rational and convergent approach with the creative and divergent thought process.”
Abraham (2005)	Strategic thinking objectives and functions	The procedure of discovering competing arenas and creating value for customers.

Source: Adapted from Moon (2013)

Strategic planning applies strategic ideas for developing a firm’s business plan which is considered as a strategic roadmap of the firm (Harris and Ogbonna, 2006). However, Bonn (2001) argued that while most companies have outstanding skills in strategic planning they are not deeply concerned with strategic thinking. The lack of balance in such a firm’s strategic behavior leads to the strategic insanity of the organization. Subsequently, the firms repeat

similar business strategies all the time while they expect dissimilar business outcomes. In addition, enterprises consider strategy only for reacting to business environment changes instead of their daily activities within the organization.

The thinking strategically ability is a significant need for managers at different levels in enterprises. Developing practices and demanding strategic thinking are the most essential activities that managers and organizations can apply to increase growth and performance (Bernhut, 2009). Prior empirical studies which carried out strategic thinking focus on defining the concept and the importance of strategic thinking (Fairholm & Card, 2009); the strategic thinking process (Stacey, 1996); strategic thinking methods (Allio, 2006); developing strategic thinking (Goldman, 2007, 2008); strategic thinking outcomes and the evaluation of strategic thinking (Goldfarb and Yang, 2009). Therefore, there are limited studies that investigate the impact and antecedents of strategic thinking in SMEs. Hence, this paper attempts to cover this gap in the literature by identifying the elements of strategic thinking in SMEs and providing a conceptual framework that indicates the links of a firm's variables to strategic thinking in SMEs. For the issues which a firm confronts in its competitive environment, strategic thinking proposes novel solutions (Hamel and Prahalad, 1994; Mintzberg, 1987). Strategic thinking benefits from variously interconnected potentials, such as long-term orientation, an integrated systemic view concerning solving firm problems, and creativity (Liedtka, 2016; Abraham, 2005).

Studies such as Chussil (2005), and Hamel (1996) debated that strategic thinking's concentration is on envisioning the future in advance through developing and thinking through various scenarios. Such scenarios signify the accumulation of various forces and visions which make sense of a general series of assumptions and predictions of future circumstances. Furthermore, strategic thinking frequently needs integration of opposing hypotheses regarding

the future and it requires reconciling divergent perspectives into an intelligible whole. Intelligence and creativity are essential for such integration. Being systemic is another aspect of strategic thinking which allows it to develop connections between diverse elements which shape the future vision. There is a need for a long-term process to turn the vision into reality since firm resources are devoted to making such a conversion promising. Mostly, strategic thinking is related to the fundamental and ground-breaking evolution of firms and industries due to the newness of the environment, competition and tools.

Zahra and Nambisan (2012) argued that creativity is essential for strategic thinking along with insight and foresight. Foresight represents future surveillance which is foreseeing the future earlier than it appears. On the other hand, insight indicates discovering the means that creates and gives sense to the future. Insight exemplifies creative activities, ingenuity and proactiveness in an environment that changes constantly and defines novel dynamics. Often it requires reviewing the competitive environment's limitations and features along with challenging and from time to time revising the fundamental assumptions of forces of the market. Furthermore, insight generates new spaces of competition by reshaping and changing the connections which already exist in the ecosystem of the organization. Such reconceptualizing provides enterprises an opportunity for competition in the environment since the firm can set its own rules (Zahra & Nambisan, 2011).

According to Zahra and Nambisan (2012), there are boundaries for the two mentioned features of strategic thinking such as imaginings, geography, and resources. Entrepreneurs perceive that a company's ecosystem is the ground for insight and foresight. They recognize that their firms rely on various settings and broad associations for surviving in the environment. In order to survive in such an environment, it is necessary to signify the ecosystem's restrictions and to deal with its complication and boundaries and understand how to transform such challenges

into concentrated and determined activities which lead to value creation. Strategic thinking's challenge is to be capable of realizing and reacting to such difficulties.

Liedtka (2016) asserted that nowadays in firms, the responsibility of strategic thinking is not restricted to senior managers. More or less, the greatest creative thoughts which encourage strategic thinking are generated by lower or middle managers along with staff who deal with the company's customers and other interested parties. The employees who well-understand the operations of their organization are capable of developing novel and exciting strategic moves which could change the firm's competitive dynamics.

Zahra and Nambisan (2012) believe that there are unique networks of knowledge in firms created by employees which makes them able to share, argue and assess ideas about a company's products and even the evolution of the company. Another precious foundation of strategic thinking ideas is personal and professional networks of friendship in firms which through them employees can relate to each other. By recognizing how to motivate and realize such different ideas of employees and managers, firms can enhance senior managers to capture strategic change ideas, particularly when they release entrepreneurial potential in their organization. All the above discussion leads us to the significance of strategic thinking in SMEs and the need for investigation to present an empirical study which could provide a guide for such firms to enhance their performance.

2.3.2. Elements of strategic thinking

There are various critical factors which are related to strategic thinking proposed by a previous study (Moon, 2013). Three major factors suggested by Bonn (2005) are namely, "systematic thinking", "creativity", and "vision". Moreover, Moon (2013) adds "market orientation" to strategic thinking's important factors. In addition, Moon (2013) considered "systematic thinking", "creative thinking", "vision-driven thinking", and market-oriented thinking" as the major factors of strategic thinking.

2.3.2.1. Systematic thinking

Stacey (2007) referred to Kant's (1790) definition of a system including a series of parts which interact with each other and organize themselves. This grounds a developmental procedure that results in a system's mature form. This unfolded mature system flourishes within the system. For a system's model development, Kant uses the causality concept in a way that a system cooperates to shape that system which consequently influences it. A system might interact with other systems in order to generate a supra system. System hierarchies are the result of systems models. The concept of management is related to an organization's rational design and control and this takes place through effective and systemic sources of change in enterprises to generate predictions which are essential for rational and independent leaders to establish control.

Fabac (2010) argued that the concept of a complex system relates to various autonomous entities interacting mutually and related to their goals. However, Palaima and Skaržauskiene (2010) believed that perceiving this complexity is a difficulty particularly for leaders who encounter challenges in their organizational operations on a day to day basis. This has led to the development of a new approach which is grounded in complexity theory and is vital for firms to recognize if they intend to survive in a turbulent environment. Furthermore, Sterman (2000) asserted that in order to have effective decision making, leaders need to enhance systems thinking capabilities which is important in understanding the involved complexities of their surrounding environment systems. Moreover, Ackoff (1999) believed that systems thinking provides a panoramic perspective of interactions along with providing a wider perception of the picture.

Akhtar et al., (2018) asserted that such complexity in firms can be recognized via a systems theoretical view which was presented by Ludwig van Bertalanffy in the 1940's. The view

approaches the whole organization and clarifies patterns which enable organizations to enhance impactful operational methods through having a holistic perspective to problems. Hence, it is important for leaders to understand and respond promptly through enhancing systems thinking capabilities in order to recognize the fundamental complex behaviors and improve future decisions (Morecroft, 2010; Sterman, 2000). This complexity is combined with the pressures of regulations, the needs of customers and the expectations of shareholders and creates pressure for leaders' approaches to be more effective and efficient (Robu, 2015).

In addition, Kaufman (1991) pointed out strategic thinking as “a switch from seeing the organization as a splintered conglomerate of dissociated parts competing for resources, to seeing and dealing with the corporation as a holistic system that integrates each part in relation to the whole”. Senge (1990) considered such a view as “system thinking”. He believed that an organization needs to have a deep view of its structure that forms the actions of employees and generates the various probable types of circumstances. Stacey (1996) asserted that integrative views of firms need a comprehensive perception of the factors which internally and externally affect a firm's life cycle.

2.3.2.2. Creative thinking

According to Bonn (2005), competitive advantage is generated by new solutions which are developed by strategy. Strategic thinkers need to follow new perspectives and have a vision about the best methods of accomplishing things and be more creative. Amabile (1998) mentioned creative thinking represents the ways that individuals view issues and the ways to solve the issues. Also, De Bono (1996) stated that creativity enables us to use all currently available information and experience which is confined in old structures, designs, and insights. Mumford et al., (2012) pointed out that creative thinking enables individuals to use suitable strategies for implementing significant processes involving creative thinking. Kim (2006)

argued that creative thinking needs an understanding of problems and redefining abilities that include thought transformation, reinterpretations, and independence from functional rigidity to creating unique solutions (Guilford, 1956, 1959, 1960, 1986). Kim (2006) believed that creative behavior needs an individual to acknowledge and process various information while having an open mind. Furthermore, Mumford et al., (2012) argued that in creative thinking studies acquiring more knowledge or information is advantageous to generate viable solutions for problems. Having more information is beneficial when it is significantly associated with the problem itself. In addition, it is important that individuals have essential and applicable information and knowledge to be capable of implementing creative thoughts.

2.3.2.3. Vision-driven thinking

Top managers require rationalizing complicated and multidimensional tasks and creating diverse probable meanings (Boland, 1984). According to Weick (1995), individuals who are in turbulent circumstances require guidance, priorities, and precision regarding their choices to assist them in developing strategies which are viable. Collins and Porras (1998) believed that managers who are highly visionary focus more on creating a firm which has a deeper perception of why it exists and what its values are. Therefore, it is the basic and continuing principles which help individuals in the firm to be together with a mutual identity. Strange and Mumford (2005) pointed out that leaders try to communicate to individuals through the vision which stresses the importance of the plans of the organization.

Jacobsen and House (2001) believed that leaders' visions are influenced by the degree that followers' decisions are coordinated with the visions. Hunt et al., (1999) and Kirkpatrick and Locke (1996) revealed that the followers who have been exposed to leaders' visions show higher self-efficacy since they set challenging goals and their performance is improved in critical conditions. Partlow et al., (2015) argued that the vision of a leader provides the group

of followers with a sense of identity and a meaning. Plus, it inspires followers by giving them a shared positive image. Moreover, it creates a pathway for overcoming present challenges or crisis. In addition, it creates shared culture and norms (Meindl, 1990; Shamir, et al., 1993; Klein and House, 1998; Hunt et al., 1999; Jacobsen and House, 2001).

According to Bonn (2005), in organizations, leaders confront imperfect information and uncertainty increasingly. Hence, they are required to rationalize projects which are complex and synthesize various possible meanings. Moreover, Collins and Porras (1998) asserted that in such turbulent circumstances, individuals need leadership to enable them to develop feasible strategies and set suitable courses of action. Hence, development of common beliefs and a desired vision is important. This provides a sense of direction and concentration for organizations' activities. Moreover, Collins and Porras (1998) continued that the companies with higher performance benefited from leaders who stressed the creation of a deep perception of an organization's existence and core values which are fundamental to direct and motivate individuals all over the organization. This results in the creation of commitment and commonality which involves the whole organization by inspiring an individual's imagination and developing a focus which enables individuals to use their talents and expertise at an effective level. In addition, Liedtka (1998) believed that a common vision, at the top level, develops a meaning and provides a sense of guidance in the process of decision-making.

2.3.2.4. Market-oriented thinking

A great deal of research has been carried out on market orientation which indicates the importance of market orientation in developing the performance of a company (Moon, 2013). Ho et al., (2018) discussed market orientation as the extent to which a firm uses the concept of marketing strategic decisions to generate higher value for customers to enhance competitive capacity and improve the performance of the firm financially. Moreover, Kumar et al., (2011)

believed market orientation enhances competitive advantage sustainability. Narver and Slater (1990) illustrated market orientation as an effective process which generates behaviors in order to create higher value for customers and constant higher performance for the organizations. Moreover, Kohli and Jaworski (1990) saw it as a process which includes market information based on customers' requirements, collecting information from the organization and responding to the market. Acosta et al., (2018) believed that in the process of strategy-making, customer needs and competitor strategies should be considered. Moreover, considering customer needs in order to satisfy their demands results in a higher profit in the long-term, while having a better understanding of a competitor's actions enables firms to maintain their competitive position.

Rivera (1995) pointed out a market orientation strategy helps firms to apply their resources effectively to achieve competitive advantages. Being sustainable is attainable due to two main reasons: first, market orientation performance needs complicated organizational knowledge which is not easily duplicable by the firm's competitors. Second, the achievement of market orientation needs continuous control and enforcing the individual's commitment (Lado et al., 1998). Satisfaction allows the company to obtain a psychologically distinctive position which creates brand loyalty and a higher level of profitability (Lambin, 1993).

2.4. Strategic planning in SMEs

Dibrell et al., (2014) believed that the term strategy has been extensively practiced by managers at the middle and senior level. Although multiple meanings appear to represent the term, there is not an agreement on the term's definition. Evaluation of the definitions reveals that strategy represents a concern, traction on the firm's long-term direction, reducing the environment's threats and making the most of the opportunities by matching with the firm's activities. Furthermore, creating a match between the activities and resources which are available to the

firm. Porter (1990) considered two aspects of tangible and intangible factors for a strategic approach. However, a strategic approach requires thinking through “experiences, emotions, gut feeling and other variables” besides structured evaluation which is founded on accessibility and information analysis (O’Regan and Ghobadian, 2002).

Elbanna et al., (2016) believed that the major reason for a corporation failing is inefficient deployment of strategic planning. They asserted that deploying the strategic planning is a perplexity and the reason for disappointment and failure in different firms. There are limited studies which have focused on the process of strategy-making in SMEs (Ghobadian and O’Regan, 2000). However, existing studies have investigated mainly large companies and the process of strategy development. Moreover, only a few studies have investigated the problems that companies face in deploying strategic plans (O’Regan and Ghobadian, 2002). By considering the possible obstacles and the potential roots, deploying strategic planning would be simplified (Beer and Eisenstat, 2000). The systematic view which intrinsically exists in the procedure of strategic development requires increasing an awareness of the probable obstacles to the strategic plan’s efficient deployment. In addition, in a fast-changing and turbulent environment variables and effects which are the consequences of such an environment need to be considered. As a consequence, the lack of a clear definition of these effects leads to contrary outcomes in the subject field. For instance, it has been asserted that it is likely that organizations which apply the view of formal strategic planning actively consider the possible obstacles, unlike the organizations which use the non-formal way (O’Regan and Ghobadian, 2002).

Sandada et al., (2014) explained the major reason for failure of strategic deployment in SMEs is their lack of ability to recognize and overcome the possible obstacles to implementation. The result of previous studies such as Sirén and Kohtamäki, (2016) Beer and Eisenstat, (2000) and O’Regan and Ghobadian, (2002) indicated that there are internal and external obstacles in

SMEs which lead to their failure in implementing strategic planning. Regarding internal factors, they found that the SMEs suffer from lack of communication, lengthy process of implementation, shortage of capabilities among employees, lack of efficient perception among staff about objectives of the strategy and ineffective coordinating of strategy implementation. Moreover, as external factors, they asserted a lack of attention to implementation due to crises, unpredicted external issues, and other external elements which could have an effect on implementation in SMEs.

Although there have been comprehensive studies and research on strategic planning theoretically which have provided frameworks, applying such outcomes practically is moderately rare (Stonehouse and Pemberton, 2002). Glaister and Falshaw (1999) evaluated the different approaches to strategic planning in diverse businesses and delivered more evidence empirically of the “tools and techniques” which have been applied in the subject field. In the study, 131 large-scale firms were chosen in two equal categories. One of the categories was firms which were active in the service sector and the other category was manufacturing. The research provided stimulating observations where commitment of the firms to strategic planning appears to be different than the real tools that have been practiced in the procedure of strategic planning.

Stonehouse and Pemberton (2002) believed this obviously is associated with differentiation among two approaches of planning which are prescriptive and emergent, yet this probably could be characterized based on how researchers define strategic planning, which might be linked more to business planning. Evaluating the strategic analysis tools regarding activities internally and externally shows contradictory reactions; such a condition also indicates that there exists confusion between business specialists.

According to Frost (2003), large-scale firms perceive the significance of planning as an in-depth activity, and some implications are that SMEs do not practice planning as deep as large firms do; furthermore, they do not offer the same passion and intensity regarding strategic planning. The study debated that the rate of success in new SMEs is not high. It continued that, in the first three years the rate of failure in SMEs was more than 60%. Furthermore, Sandada et al., (2014) studied the failure of SMEs from dimensions of management and revealed that low performance and SMEs' potential failure are strictly associated with deficiency of consideration to strategic management.

Moreover, Beaver (2002) asserted that practitioners in SMEs tend to consider a firm's financial performance regarding internal aspects, for instance, the desired drawing of the firm from the owner-manager's perspective and last year's performance. Based on Frost (2003) observing and recording information about the performance of the firm's competitors have been ignored in various firms. This could be a consequence of the lack of availability of competitors' information, but it reveals an absence of strategic thinking. According to Beaver (2002), the firms that suffer from a lack of strategy, their indicators of financial performance are derived internally rather than having objectives which are derived from the marketplace. The lack of precise reporting processes in firms leads to a decrease in business performance.

In some small enterprises, the survival of the firm is dictated by external forces (Thompson and Martin, 2010). In general, due to lack of power, it is less probable for small enterprises to have an impact on their environment (Frost, 2003). Furthermore, Sirén and Kohtamäki (2016) asserted that until small firms grow, the owner's approach is the major consideration while formal planning might be less significant to the firms. Moreover, Wang et al., (2007) believed planning based on its definition in the literature of business strategy for large-scale firms also could be effectively practiced in micro-firms. There are various indications of the significance

of strategic planning on the enhancement of firm performance; while there are many SMEs which do not practice planning and the root for such a consequence is still vague.

However, Mazzarol, (2004) pointed out this fact contradicts the scholarly literature on the importance of planning for the future to being able to effectively compete and survive in the market. While owner-managers of SMEs are named as people who are narrow-minded strategically and accused of lacking “long-term visions as to where their company is moving towards”, not using strategic planning may lead SMEs to not being able to enhance their potentials of growth and performance, and consequently, it could put their survival at risk.

There are numerous studies documenting the significance of SMEs (Johnson and Schaltegger, 2016; Madanchian et al., 2015); they are known as the biggest sector of the business world in each economy (Gupta et al., 2018), and policy makers and governments are supporting the growth of SMEs to enhance their domestic strategy of development (Abdullah and bin Bakar 2000). They have an important role in the growth of economies and employment. In OECD countries, SMEs have generated significant new employment since the 1970s (Peacock, 2004). Also, SMEs play an important role in GDPs; for instance, in Australia and New Zealand approximately 30%, and 51% in the US and United Kingdom despite their small scale (Ayyagari et al., 2003). Furthermore, SMEs are important for governments for their significance in enhancing regional economic regeneration of the community. Since the early 1980s, large-scale firm restructuring has been known as general job shedding (Klačmer Čalopa, 2017). Moreover, Walker and Webster (2004) believe that SME growth leads to re-employing the employees who were made jobless by large-scale organizations. Consequently, such employment results in providing regional income that leads to activation of the local economy and provides, as a consequence, more job creation and wealth.

There are studies such as Mallett et al., (2018) and Wang et al., (2006) which indicated that SMEs form large sections of various vital industries, for instance, the retail sector, and service. Furthermore, SMEs are significant sections of the supply chain of large manufacturing industries namely, mine industries and defense industries. Moreover, Peacock (2004) debated that the existence of SMEs in the marketplace could lead to an important competitive atmosphere and balance which otherwise would be conquered by a small number of large organizations as major players. However, Peacock (2004) asserted that Australian SMEs have a 54% contribution in the important technological sector despite the fact that the R&D investment share is only 20% for technical innovation. According to Johnson and Schaltegger (2016), SMEs have an influential role as a “seedbed” for new industry growth and future large organization creation.

Despite their positive help, SMEs suffer from a significant rate of failure and low level of performance (Jocumsen, 2004). To ensure the sector’s sustainable development, it is important to perceive the roots of success of SMEs that are more successful than others. Hormozi et al., (2002) indicated that the major determining factor for the success of the business is rooted in strategic planning’s existence or non-existence.

Strategic planning deals with recognizing long-term goals for the firm and developing plans and implementing them to accomplish such goals and allocating the required resources to realize the objectives (Stonehouse and Pemberton, 2002; O’Regan and Ghobadian, 2004). Klačmer Čalopa (2017) presented that strategic planning aims to advance the enterprise’s sustainable advantages further than its competitors. Regarding performance, usually, strategic planning is used in SMEs with better performance. For instance, SMEs which apply strategic planning can achieve greater growth in sales, greater assets’ return, greater profit margin and greater growth of employment (Gibson and Casser, 2005; Carland and Carland, 2003).

It is true that the success of SMEs is rooted in strategic planning and in general, studies show that planning has more advantages than not planning. Nevertheless, studies indicate that strategic planning's use in the mainstream of SMEs is uncommon or non-existent. Practically, SMEs have a tendency to “short-term operationalism” as opposed to having “*long-term strategic*” view, and their “*decision-making process*” is more “*reactive*” as opposed to being “*proactive*” (Mazzarol, 2004; Stonehouse and Pemberton, 2002). Moreover, Klačmer Čalopa (2017) believed that plans in SMEs are mostly by intuition and *ad hoc* instead of being written formally, and the basis which is provided by them is not strong enough to be able to measure or analyze the performance of the firm.

Elbanna et al., (2016) asserted that there are numerous tools and techniques for business managers to enhance their strategic decisions. Such tools and techniques assist firm managers in changing their data into appropriate procedures to enhance their decision making (Fleisher and Bensoussan, 2003). Furthermore, Frost (2003) discussed that tools and techniques assist firm managers by increasing their level of awareness; these processes help them by decreasing their decision-making risk. As a consequence, they help managers to clarify their large-scale firm's priorities and deliver them an evaluation framework for the related significance of diverse portfolios of the business. Moreover, they help managers by presenting them with the firm's complicated problems, and they could be considered as an important device for communication besides their role as an analytical tool.

Numerous tools and techniques have been proposed by researchers. Webster et al., (1989), for example, categorized 30 and Lisinskie and Saruckij (2006) presented 28. In addition, Stonehouse and Pemberton (2002) evaluated 14 different tools and techniques namely, “SWOT analysis, critical factor analysis, PEST or STEP analysis, Porter's five forces analysis, core capabilities/competence analysis, financial analysis of competitors, financial analysis of own

business, value chain analysis, organizational culture analysis, portfolio matrices e.g. BCG, strategic planning software, spreadsheet “what if” analysis, benchmarking tools, human resources analysis”. According to Wolf and Floyd (2017), there are various views of levels relating to concept and operation that have been practiced for developing strategic planning measures. Although the selection of strategic planning indicators has a wide diversity in research, in general, most of the studies explain the formality of planning or significance related to such indicators; there are a few types of research that have selected planning measurement as “skills and abilities vs. aspects or elements” (Boyd and Reuning-Elliott, 1998).

With a comprehensive review of strategic planning literature, from our perspective, we applied the following elements as major strategic planning indicators based on a seminal study by Boyd and Reuning-Elliott (1998). These variables have been used frequently by high ranked journals: mission statements, trend analysis, competitor analysis, long-term goals, annual goals, ongoing evaluation, and short-term action plans.

2.4.1. The downfall of strategic planning

One of the major tools of management which has been used widely is strategic management (Wittington, 2006). According to Wolf and W. Floyd (2013), since 1990 strategic management studies have seen a decline. Between 1980 and 1989, 32 papers had been published on the subject in *Strategic Management Journal*, one of the most popular journals of strategy; but this number of publications declined to 9 papers after 1990. Furthermore, only one article has been published in the journal since 2000. According to Mankins and Steele (2006), results of a comprehensive study revealed that only 11% of managers were satisfied among those who practiced the tool. However, Anderson (2004) believed that despite a large number of studies on the subject field, there is an ambiguity linked with the association of strategic planning and

performance of the firm, especially regarding contingencies related to the organization and the environment.

Wolf and W. Floyd (2013) argued that the existing gap and decline in studying the subject field in the literature roots to 1994. It seems that 1994 is a turning point in strategic planning studies. Before 1994, the focus of studies was on the association of financial performance of the organizations and strategic planning. Miller and Cardinal (1994) revealed that there is a modest positive association between the performance of the firm and strategic planning. Apparently, such a finding could be one of the reasons for the decline. Another reason for the decline could be four influential publications of Henry Mintzberg (1994a, 1994b, 1994c, 1994d) which reported strategic planning's downfall (Wolf and W. Floyd, 2013). According to Wolf and W. Floyd (2013), between 1980 and 1994 there was approximately an average of four papers published in major journals of strategy. This number reached seven articles or more published in the subject field in some years. However, after 1994 the decline is considerable with one or two articles per year and after 2000 the decline is even more significant.

2.4.2. Mintzberg's controversial publications

According to Mintzberg (1994a), after the introduction of strategic planning in the mid-1960's business leaders admitted that the concept is "the one best way" for planning firms' strategies and implementing them to enhance the competitive capability of business units. Thinking and doing were separated from each other in the concept and strategic planners were defined as experts carrying out the new function. There had been an expectation to deliver effective strategies as well as sequences of commands to carry out the delivered strategies. But the function that planning delivered was not as accurate as had been expected.

Mintzberg (1994a) asserted the downfall of strategic planning. And not many individuals have an awareness that "*strategic planning is not strategic thinking*". In fact, strategic planning

results in a leader's confusion between visions and manipulation of numbers and it leads to the spoiling of strategic thinking. While "*the most successful strategies are visions, not plans*", strategic planning has been practiced as "*strategic programming*" in the form of reusing visions and strategies which have already been used. It could be challenged in the process of strategy making as to whether it is appropriate to visions from the past.

Makridakis (1997) believed that past success could lead to scarce lessons for future success, especially in a turbulent environment. By understanding the dissimilarity of strategic planning and strategic thinking, organizations could have an efficient procedure for strategy making. Such success could be achieved through two sources of hard data and soft insights. Soft insights are personal experiences of the firm manager and other people's experiences and hard data is market research's extracted data. Consequently, the firm's direction is the result of synthesizing such perceptions and knowledge in the form of a vision (Mintzberg, 1994a).

2.5. Strategic thinking and strategic planning

Heracleous (1998) cited the perspective of Mintzberg on strategic planning which is the ambiguity of the meaning of the term and the need for presenting a clear perception of it. The "analytical" and "programmatic" processes of thought are indications of strategic planning while "divergent" and "creative" streams of thought are representing strategic thinking. According to Heracleous (1998), the two terms have been practiced by scholars in diverse ways which leads to more ambiguity. Therefore, some scientists such as Mintzberg believe that strategic thinking and strategic planning are two different ways of thinking while both ways are essential for strategic management. On the other hand, writers such as Porter discuss that strategic thinking does not have the creativity of analytical thinking while others perceive strategic planning as an "analytical activity", where the operations of organizations regarding strategic planning have changed. Moreover, some scholars believe strategic planning as an

analytical tool that aims to enhance creative thinking as strategic thinking; although, some scientists stress the impracticality of strategic planning.

Mintzberg (1994a) indicated that the traditional task of planning needs to be transformed and the planners should not be “*inside*” the procedures of strategy-making, they need to operate “*around*” it. The necessary formal analysis or data in hard form should be provided by them to enhance strategic thinking. They could be influential in the strategy-making process by helping managers of the organization to think strategically. Moreover, they could help the process by being strategy programmers and the steps which are tangible could be provided by them to create the vision.

Mintzberg (1994a) discussed strategic thinking as being linked with synthesis and it applies creative thinking and intuitive thinking. Moreover, it generates a view of the firm which is integrated while it's not a too-detailed direction for the vision. Such strategies need to be free from defined timetables; they need to be open to individuals at different levels of the organization during learning processes which are casual. Strategic planning diagrams are unable to create strategies as a consequence of synthesizing the individual's experiences.

Heracleous (1998) believed that strategic thinking is related to “*double-loop*” learning while strategic planning is associated with “*single-loop*”. Such an analogy could clarify strategic thinking and strategic planning's nature and it could help to describe the reason for their differences while it stresses why they are both significant and complimentary for the firms. Argyris (1977) stressed the double-loop and single loop learning differences. Between the actions of a firm's design and the results there is either a match or altering the actions lead to correction of the mismatches; this is when single-loop learning happens, but the influential action variables remain. On the other hand, double-loop learning happens when the mismatches are corrected and the influential action variables are examined and altered.

Fiol and Lyles (1985) introduced the dissimilarities between “*higher-level*” and “*lower-level*” learning. Lower-level represents cognitive relation development which enhances the adaptation of firms, but the major norms reference frames of the firm remain unquestioned. When such reference frames and norms are challenged and transformed, and a more causal perception exists, learning at higher-level happens. Moreover, Senge (1990) stressed generative and adaptive learning dissimilarities. Adaptive learning represents dealing with reference frames which already exist in the firm, while, generative indicates creativity and new perspectives of understanding the world.

Heracleous (1998) stated that although there are diverse views in the discussed studies, the major common concept among them represents thinking and acting on certain assumptions and possible alternatives of action; or stressing on challenging the current assumptions and alternatives of action, which could possibly lead to generation of new and more appropriate assumptions and alternatives. For example, an enterprise that has a failed performance reacts with the actions which are typical and practiced in the past, such as cutting the firm costs, re-designing or lowering the firm layers which represents the single-loop learning. Such enterprise does not follow the creative alternatives for actions but practices old and fixed methods of action. The double-loop learning could happen if such enterprise expands the possible alternatives for action to involve new reactions and new thinking methods to solve the firm problems.

According to Hamel (1996), such formulation for strategic planning could be observed as an activity which occurs based on elements of assumed objectives, while the elements are not clearly questioned, so it represents single-loop learning. Strategic planning usually follows predefined strategic direction and enhances strategists to configure the enterprise and allocate resources to understand the direction. Such a situation is criticized by scientists as they discuss

strategic planning being mainly focused on the current situation and past situation of the firm rather than concentrating on reinvention for the future.

Heracleous (1998) argued both strategic thinking and strategic planning are significant for firms but neither is sufficient on their own. Strategies which are creative and influential are generated by strategic thinking and operationalizing such strategies could be done via strategic planning which is a convergent and analytical way of thinking. Furthermore, planning is necessary but is not able to create strategies that are challenging the boundaries of the business world and create a new definition of the industries. Strategic thinking and strategic planning in a procedure which is dialectical are interconnected and for influential strategic management both are essential, and each concept is vital per se but not adequate.

2.6. Foresight

Future studies have been broadly perceived as every strategy's essential element (Vishnevskiy et al., 2015). On the other hand, Porter (1985) signifies that the strategy's objective is to acquire and maintain the competitive advantage for the firm. Hence, this is the issue of perceiving and developing scenarios for dealing with competition in the industry. Furthermore, detecting weak signals and trends in the turbulent context (Ansoff, 1987).

Based on Battistella and De Tonihe (2011), innovative firms which seek novel opportunities and analyse previous mistakes or realize today's markets, need to recognize the likely scenarios of tomorrow's market. This suggests the prominence of peripheral scanning (Day and Schoemaker, 2005) to realize weak signals, trends monitoring and then having an analysis of the present situation and probable future pathways. Considering the significance of forecast and foresight, combining them and the decisions of the firms is therefore an issue (Day and Schoemaker, 2005).

All firms are challenged with environment adaptation and thus they survive or fail (Aldrich, 2008). The firm system's objectives vary in reaction to external elements of the environment and internal elements of development. A firm is a multifaceted system with an adaptation which functions subject to expectations and, in the process of learning, its behavior is modified and the learning process takes place from the environment, the behaviors of the competitors, the industry evolution, etc. Strategic fit is vital for an organization's capability to modify and adapt to the setting. In the past decades, studies such as Aldrich (2008), Porter (2002) Miles and Fit (1994), Venkatraman (1989), and Coda (1988) argued that firms continuously explore the methods to enhance their internal and external strategic fit. Numerous scholars highlight that fascination with profits in the short-term can supposedly create too much focus on the inside of the firm; subsequently, this leads to a problem in evolving the external environment's consideration and the combination of it in the form of the firm's corporate strategy.

According to Du Toit (2016), in the literature of strategic management, the essentiality of considering the evolution of the environment's probable future through strategic procedures and consequential necessity of environmental scanning has been stressed.

According to Battistella (2014), foresight is the capability of having a correct judgment about future events and to be able to have an action plan according to such knowledge. The practical definition is systematic and involves different levels of the firm to gather future intelligence to build a medium-to-long-term vision to have clearer present decisions to mobilize joint actions. Moreover, foresight promotes enterprises to enhance a vision to perceive multifaceted forces of change drivers, to provision the procedure of decision-making and help strategy management and research and development. Still, the literature of foresight concentrates on procedures and methods. Accordingly, Vishnevskiy (2015) argued the ways of refining single methods, developing a comprehensive foresight toolbox, and the foresight procedure steps. All

the mentioned methods and techniques have a missing part in that foresight is not having a long-term view, it represents the skill of organizing the uncertainty. The literature of corporate foresight distinguishes the missing point of foresight capability, but there is a deficit of studies that contribute to operationalizing the capability of foresight to help firms firmly develop a system to cope with its future.

Although in the literature there are numerous definitions of foresight (Amsteus, 2008), often the concept has been misunderstood and there is not a definition which is widely recognized (Major et al., 2001). However, having such a multi-aspect definition can lead to a deeper insight of the concept instead of having a single view; while in a contradictory way it could create a complication (Hutzschenreuter and Kleindienst, 2006). Furthermore, numerous defining and practicing the concept without providing any specific definition may be a barrier to the subject field's progression (Amsteus, 2008).

Based on Kayser and Blind (2017), there is an ambiguity when using the foresight term on whether it is arguing for a process which indicates a human attribute or a competency, or a foresight program which is nationwide. Moreover, the term foresight represents a wide range of research, foresight programs, methods and practices of the future view. The reason for misunderstandings is the numerous diverse focuses; the foresight concept is viewed and analyzed with concentration on the phenomenon of foresight itself (Hadfield, 2005), foresight antecedent features (Amsteus, 2008), foresight consequences or considering the concept as a tool or series of steps when there needs to be a deeper clarification of the nature of foresight (Greenstein, 2005).

Foresight can be viewed as covert behavior and/or overt. Major et al., (2001) asserted that while literature indicates that discussions have not succeeded to clarify the meaning, foresight is exposed as the future provision (Anderson, 1997). Kayser and Blind (2017) believe foresight

as foreseeing ability; looking at forward action; forward viewing and prudent care. According to Tsoukas and Shepherd (2004), foresight represents a capability of seeing over complexity, to recognize the future trends while still in development, perceiving patterns when they have not entirely appeared, and to recognize linked dimensions of social streams which are capable of directing circumstances in the future. Moreover, Amsteus (2008) believed foresight can be recognized as shaping the future. However, Tapinos and Pyper (2018) argued foresight associates with future shaping via the mutual acts of focused groups. Moreover, the processes of foresight are able to alter the circumstances of the future. Moreover, foresight has an influence on the future by describing the diversity of potential futures that lead to defining the future which is desired.

Battistella et al., (2015) believed that the focus of most of the small and medium enterprises is on short-term goals instead of having long-term objectives, they mostly focus on their sales, their profit and cost objectives. Their period of planning ranges between one to three years. Although larger organizations usually practice more detailed plans on a long-term horizon and they use strategic analysis tools, smaller enterprises in general concentrate on the short-term horizon and instead of having plans they use policies.

According to Stonehouse and Pemberton (2002), the evidence which shows that SMEs practice strategic analysis tools is rare, yet there are many pieces of evidence which reveal they use tools regarding the analysis of internal finances. They illustrate a focus on analyzing based on financial facts, profit objectives and short-term horizons of planning. It seems there is a tendency for business planning instead of applying strategic thinking. Performing an application of foresight in SMEs is a hardship (Von der Gracht et al., 2010; Battistella, 2014). So far, SMEs have been unsuccessful in enhancing the culture of forward-thinking (Major and Cordey-Hayes, 2000). However, Z-Punkt (2008) indicated that there are some SMEs that

develop foresight, but there are significant obstacles for instance policies of organization which limit the dialogues, inadequate consideration of stakeholders in the firm and deficiency of resources.

In recent years, studies have evaluated foresight clusters practically in biotech SMEs (Mietzner and Reger, 2009) revealed the way that foresight is integrated into SMEs (Battistella and De Toni, 2011) and discussed foresight consequences in an SME (Will, 2008). Battistella et al., (2015) believed that such studies are the initial stage of helping SMEs to practice foresight. Rohrbeck (2010) asserted there is a continuous interpretation of foresight by businesses as a series of methods or a procedure, while recent studies present an interpretation which is holistic in the form of strategic, organizational and managerial aspects or as a future orientation capability.

The foresight term has been used progressively since the late 1980s. It defines a human activity which is inherent through society and business (Loveridge, 2005). Cunha et al., (2006) approached foresight as a less analytic procedure which is technical; they viewed foresight as the procedure infused by a conflict of the necessity of knowing and the terror of knowing. Furthermore, Ruff (2006) believed many firms use corporate foresight prevalently for their activities regarding future research. The term represents long-term prediction analysis in the environment of the firm, marketplace and novel technologies and the consequences on firm innovation and corporate foresight. Therefore, the term corporate foresight could be perceived as a predominant future orientation of a firm. Hence, it can be reflected as strategic management feature (Gruber and Venter, 2006). Von der Gracht et al., (2010) argued that future scientists, for instance Ratcliffe (2006) and Hines (2006), believe that an unconditional futures orientation which is combined with the robust capability of foresight and capacity grounded on malleable and adjustable systems, is the key to the success of any firm.

Nonetheless, the real addition of corporate foresight in the firm's organizational structure is scarce (Van der Steen et al., 2011). Most of the studies of corporate foresight concentrate on techniques and methodology, few of them contribute with consideration of organizing corporate foresight between significant facts that need to motivate the corporate foresight design system (e.g. Daheim and Uerz, 2008). According to Ruff (2015), there is no systematic and detailed investigation on the structure of the organization and whether there are related features or features associated with the precise activity in the organization, which impact the features of the system and the performance of corporate foresight. This contradicts the literature on the significance of designing and structuring a specific organization in which capabilities of foresight are augmented.

2.7. Foresight and strategic thinking

Voros (2003) asserted that although there is a false discussion in the literature which stresses that all three concepts of "strategic planning", "strategic thinking", and "foresight" are the same which causes an ambiguity, every concept represents different thinking appropriate for its execution. According to Liedtka (1998), strategic thinking indicates "disruptive", "intuitive", and "experimental" thinking and it aims to have a broader picture than the outcomes of logical thinking. Voros (2003) believed that although there is scarce information of the possible future, to succeed in such an activity the thinking process instead of being "deductive" and "analytical", is required to be "intuitive" and "synthetic". Furthermore, foresight, in a firm's context, is a strategic thinking dimension that is aimed to develop accessible strategic options to enhance the process of strategy-making. Foresight as strategic thinking explores on the basis of imperfect information and a set of alternatives.

Voros (2003) revealed that although foresight is a dimension of strategic thinking that results in "action" and "strategic planning", it is not a strategic planning substitute. Furthermore,

foresight helps the process in which strategy is “developed”, “planned” and “executed”. Moreover, strategic thinking and foresight represent the question: “what might we need to do?”.

2.8. Firm performance

According to Assaf et al., (2014) firm performance measurement is a vital feature of business studies. In general, firm performance reflected in operational or financial ratio, a firm’s profitability and efficiency, has been a subject in the literature of business studies (Tan and Wang, 2010; Ussahwanitchakit, 2008). Furthermore, a number of scholars have considered different factors associated with measuring firm performance (Dibrel et al., 2014). Markman and Gartner (2002) argued that selecting an appropriate indicator to measure a firm’s outcome has been a major issue of research. Furthermore, recently a great deal of research has considered the importance of growth in enhancing competitive advantages and profitability in firms. Wiklund and Shephers (2005) noted that firm performance should measure two aspects: firm growth and financial performance. Evaluating firm performance using financial ratios has been a traditional yet powerful tool for decision-makers, including business analysts, creditors, investors, and financial managers.

Applying financial ratios for examining the performance of the firm has been an old but still influential tool for managers (Delen et al., 2013). The ratio of profitability evaluates the capability of generating profit in organizations grounded on amount of sales, assets, and firm equity (Delen et al., 2013). Ralston et al., (2015) revealed that firm performance positively associates with firm profitability. In addition, Delen et al., (2013) pointed out that formerly to examine the financial performance of firms, financial ratios had been applied by several methodologies. Applying financial ratios is not new for evaluating the performance of firms. Reviewing the literature indicates there is a considerable number of studies on this subject. The research mostly distinguishes itself by establishing and practicing dissimilar independent

variables or using diverse statistical methods. Furthermore, Ross et al., (2003) asserted that financial ratios usually originate from financial statements and can present positive points such as performance measurement of managers for the objective of rewards, in multi-level firms the performance measurement of departments, assessing competitors and examining the financial performance of acquisitions.

Dibrel et al., (2014) stated that only measuring the financial performance of firms would not be applicable in all organizations. Therefore, different indicators should be applied such as “return on assets”; “return on sales”; “market share growth”, and “sales growth” (Rudd et al., 2008; Titus et al., 2011). MacMillan and Day (1987) stated that high growth raises the firm profitability because entering new markets leads to more profit. In contrast, Hoy (1992) argued that high growth has not always a positive effect on firm profitability and it depends on the firm’s size, age and in which industry sector it is active (Delmar et al, 2003). Lumpkin and Dess, (1996) discussed that firm growth has multidimensional aspects and it should be applied cautiously.

According to Delmar et al., (2003), sales figures is another indicator that is used for measuring firm performance. Sale rate is available in all companies and shows all changes of firms in the short and long term. In addition, they argued that sales figures might not measure firm growth; for example, in technology-based firms with high growth in HR and assets, sale rate would not indicate firm growth. Consequently, two other indicators namely “employment rate” and “asset” should be considered additionally (Foreman-Peck et al, 2006). Delmar et al., (2003) asserted that there is no specific measurement for firm performance; therefore, multiple indicators might be used for measuring based on theoretical and previous research. Profitability is another major indicator of performance that measures “profit margins” and “return on sales”. In general, choosing a single indicator for measuring performance is difficult. In strategic

management literature, there are different factors that apply for measuring firm performance quantitatively and qualitatively (Hunger and Wheelen, 1993; Greenly, 1994). Tayeh et al., (2015) discussed that although there are a number of factors for measuring performance, the appropriate factor for assessing performance should have a previous strong background and cases in the literature.

The implications of strategic thinking and its performance in firms have been an interested issue of scholars during the past decade. According to Jelenc (2008), some of the studies indicated that strategic thinking enhances firm performance while a number of studies argued that there is no clear systematic association between “strategic thinking” and “firm performance”. Despite the importance of “strategic thinking” and “firm performance” in the literature, less attention has been devoted to investigating the relationship between strategic thinking and firm performance in empirical studies. Therefore, the major objective of this research is to fill this gap in the literature by studying the relationship between strategic thinking and firm performance.

2.9. Chapter summary

The current chapter has presented a wide discussion on four main variables of the study which are strategic thinking, foresight, strategic planning, and firm performance. Each variable was discussed extensively based on previous studies and literature. Reviewing revealed the significant role of strategic thinking in today’s management and business world and the fact was illustrated that there is a need for more empirical study in the area. There are some studies which stress the complementary role of foresight to enhance strategic thinking. Furthermore, strategic planning has been discussed as a major tool for enhancing performance. The next chapter will present a model based on previous studies’ implications to illustrate grounds for enhancing SMEs’ performance.

Chapter three: Conceptual Framework

3.1. Introduction

The current chapter synthesizes the literature which was broadly discussed in the literature review. The aim of this chapter is to develop study variables, research objectives and hypotheses to provide a structure to discuss the methodology in the next chapter. The main concepts of this study are strategic thinking, foresight, strategic planning and firm performance which are briefly discussed, and their variables indicated in the text. In the final section of this chapter, the conceptual framework is presented grounded on gaps existing in the literature.

3.2. Strategic thinking variable

In the area of strategic management, strategic decision making was a subject of interest for many scholars (Eisenhardt and Zbaracki, 1992). Significant insights have been provided regarding rational processes as well as bounded rational procedures of decision-making (Eisenhardt, 1989; Nutt, 1989), policy and authority's role (Pettigrew, 1973), and vitality of randomness and chance of events (Cohen et al., 1972). However, most such research neglected the cognitive feature of decision-making, specifically the important inquiry of the way of thinking of decision-makers. For instance, the strategic decision-making component has been neglected. Activities of leaders have been studied but it is appropriate to stress the thinking of strategic managers (Stubbart, 1989).

Garratt (1995) invited scientists to research strategic thinking as it had been undervalued. An experts panel in the USA recognized strategic thinking amongst the ten most vital and significant subjects of management studies of the future (Zahra and O'Neill, 1998). Bonn (2005) illustrated strategic thinking as a tool that answers the strategic problems by merging convergent rational process of thoughts with a divergent creative view. This process concentrates on the way that top managers try to perceive and take strategic action in a highly volatile and uncertain competitive

environment. It indicates a vital strategic decision-making antecedent which possibly presents a key to a higher perception of change phenomena in the organization and finally the survival and performance of the organization.

3.2.1. Systematic thinking

Kaufman (1991) pointed out strategic thinking is a shift from viewing the firm as separate parts which compete for resources to having a perspective of the organization as a holistic system which assimilates such dissociated parts to the whole. This perspective is viewed as system thinking that firms necessitate for a comprehensive approach to structure which shapes personnel actions and creates diverse potential situations (Senge, 1990). Stacey (1996) suggested that such integrative perspectives of enterprises require a thorough understanding of elements that have an influence on the company's lifecycle internally and externally.

3.2.2. Creative thinking

Bonn (2005) stressed that strategy generates novel solutions which lead to the creation of a competitive advantage. In order to achieve and be more creative, strategic thinkers require new perspectives and visions. Creative thinking illustrates how individuals approach and solve the issues (Amabile 1998). In addition, De Bono (1996) suggested creativity helps individuals to apply existing accessible information and confine experiences in old constructions, designs, and visions.

3.2.3. Vision-driven thinking

Difficult and multifaceted tasks should be rationalized by senior executives and they should present meaning to such situations (Boland, 1984). Weick (1995) asserted in turbulent situations employees need some sort of leadership and they need to be guided by priorities and exactness

associated with their selections to enhance them to advance feasible strategies. Visionary managers create a deep vision of their organization's reasons for existence and values. Hence, it creates a mutual identity for an organization's employees and helps them come together.

3.2.4. Market-oriented thinking

Moon (2013) pointed out numerous studies on market orientation illustrate the essentiality of the subject in enhancing marketing performance. Rivera (1995) suggested a strategy of market orientation assists enterprises to benefit from their resources successfully to obtain a competitive advantage. Sustainability is achievable by firms based on two grounds; performance of market orientation requires sophisticated knowledge which cannot be copied by other competitors of the firm and next, there is a need for control and imposing the personnel's commitment to achieving market orientation (Lado et al., 1998). Organizations can achieve a psychologically distinctive station through satisfaction; this results in brand loyalty which leads to greater profitability (Lambin, 1993). Table 3.1 illustrates the items which have been used for measuring strategic thinking.

Table 3. 1. Strategic thinking items

Variable number	Item	Reference
1	Overall, my company's decision-making is systematic.	Moon (2013)
	Overall, my company's decision-making is market-oriented.	
2	Overall, my company's decision-making is creative.	
3	Overall, my company's decision-making is vision-driven.	
4	In my company employees have possession of the necessary creativity.	Hoegl, and Parboteeah, (2007)
5	In my company employees have the ability to come up with original solutions.	
6	In my company employees have the ability to develop inventive ideas.	
7	Selling oriented thinking reflects the corporate philosophy.	Fritz (1996)
8	In my company, customer-oriented thinking reflects the corporate philosophy.	
9	In my company customer satisfaction is perceived as a goal of corporate decisions.	

3.3. Organizational foresight

According to Rohrbeck (2010), organizational foresight is defined as a capability which comprises environmental scanning, strategic selection and integrating capabilities to enhance companies to distinguish irregular change at the initial stage and understand its outcomes for the organization. This continues with formulating impactful reactions, where the firm sustains a superior, comprehensible and practical view towards the future (Rohrbeck, 2010; Slaughter, 1996). The aim

of studying organizational foresight was extending the conceptual framework and to present a reliable measurement for this construct in order to clarify the association among organizational foresight and firm performance. Various scholars have stressed foresight's meaning (e.g. Amsteus, 2008; Major et al., 2001; Ratcliffe, 2002; Slaughter, 1996). Scientists such as Amsteus, (2011) Horton, (1999), and Rohrbeck, (2010) have proposed various definitions to clarify steps of the process, its practices, techniques, properties, and capabilities. As a result of organizational foresight's cross-functional characteristics, studying it has been approached by scientists from various disciplines such as strategic management, future studies, and technology, and innovation management.

According to Cunha et al., (2006), organizational foresight was introduced as a capability that enhances companies to manage uncertainty in their day to day practices. Such capability provides a means to enhance long-term competitive advantage in turbulent environments with a high degree of uncertainty. Consequently, this study supports the viewpoint of approaching foresight as a capability rather than a practice outside of the company's daily activities. This study believes that such capability should be implanted in the organization's strategic activities and it should be engaged more in the firm's activities. Rohrbeck (2010) believed that it should create a responsibility for employees to involve in forward-looking practices via conventional procedures e.g. procedures of new product development and corporate entrepreneurship. Organizational

foresight was introduced as a skill which involves environmental scanning, integrating capabilities and strategic selection which enhances the organization to recognize irregular changes initially, having an interpretation of the results for the company and presenting a formulation for efficient reactions, meanwhile preserving a superior, clear and practical forward view. According to Amsteus, (2011), organizational foresight capabilities could be useful to generate and maintain values. Organizational foresight, from such a view, is considered as a vital practice for an organization which is being undertaken at the micro-level, an alteration from technical-rationalistic occasional activity to enduring capability which happens at different levels.

The business environment development and companies' intrinsic traits such as their culture are the roots of their activities in a specific circumstance. Considering foresight as a series of capabilities is believed the most suitable view. The literature stresses capabilities based on a resource-based approach which enables the firm to attain value. Hence, the organization attempts to protect related resources and develop further capabilities (Amsteus 2008). Rohrbeck (2010) approved the perception of organizational foresight as an organization's intrinsic capability. Furthermore, Amsteus (2011), Bishop et al. (2007) and Grimm (2009) presented a maturity model for foresight which had a series of stages of "scoping, forecasting, visioning, planning, and acting". This research considers an integrative view to organizational foresight which includes techniques, procedures, and competencies.

The new theories of strategy and entrepreneurship are increasingly developed based on entrepreneurial search and opportunities (Daheim and Uertz, 2006). The search proposes that a competitive setting with high uncertainty is a result of disruptive technological changes and globalization, which constantly unlocks and locks opportunities (Ireland and Hitt, 1999). Strategic management studies the way that organizations respond to changes in their environment and use the created opportunities, which are caused by this turbulence, to achieve superior performance. Daheim and Uertz (2006) stressed that studies examining responses to achieving entrepreneurial opportunities have resulted in an approach which can help the firm to create novel products, services, and techniques. Subsequently, these are considered as existing opportunities since information is available to various agents in the economy and can be found and kept from sources within and outside of the organization. Subsequently, this information can be used in innovation processes. However, Stuart and Podolny (1996) mentioned studies that revealed the knowledge sources outside of the organization are vital to the process of clarifying the opportunities. Saviotti and Mani (1998) asserted that search activities are the ones which scan the external environment to recognize alternatives or novel processes. Rohrbeck (2010) confirmed that organizational foresight is considered a component of the strategy of search and change or a dynamic capability and a sort of environmental scanning to find opportunities.

This research noticed that prior studies mainly approached organizational foresight as environmental scanning capability. Scholars such as Day and Schoemaker (2005), Becker (2002), Reger (2001), Daheim and Uertz (2008) and Rohrbeck (2010) noticed that organizational foresight's implementation remained restricted, as establishing a structure in the firms that would enhance an efficient response is a challenge. However, creating value from scanning capabilities is not only the consequence of gaining cutting-edge knowledge, but also the result of the way this knowledge is analyzed, used, combined and coordinated inside the firm (Teece, 2007; Rohrbeck, 2010). Therefore, it can be proposed that the organizations need also capabilities of strategic selection to enable them to apply novel information and combine the external information to their innovation procedures. Hence, organizational foresight can be considered as gathering, understanding, and integrating the information about the future environment which is collected from external sources (Bishop et al., 2007; Rohrbeck, 2010).

Daheim and Uertz (2006) argued that organizational learning clarifies which capabilities are necessary to have a prosperous transference and application of the created visions. Alternatively, organizational foresight's strategic selection considers a process of capturing information or a replication of knowledge. Plus, it also creates a vision and process of setting a direction. Furthermore, organizational foresight is a proactive phase of dealing with business environment uncertainties.

However, Rohrbeck (2010) believed that organizations require integration of their capabilities. They need to capture and use information in their environment which is rooted in external sources and combine it with their internal process of strategic selection. These integrating capabilities are vital for dispersion of organizational foresight outcomes. Day and Schoemaker (2005) argued that organizational culture and human characteristics are related to integrating capabilities. This provides an alternative for formal organizational foresight procedures. Various scholars have proposed that cultural barriers, such as inefficient incentives on future visions and challenging the basic assumptions, cause leaders to be chained by their mental models or cross-functional sharing deficiency. These barriers can stop the application of organizational foresight outcomes (Rohrbeck, 2010; Day and Schoemaker, 2005). Therefore, it is more likely for organizations that synchronize, participate and sustain the external sources of information to have a higher performance regarding innovation capabilities. So, it is suggested that the capabilities need to integrate information which is captured by leadership and coordination.

Cohen and Levinthal (1990) argued that conventional knowledge base and current learning capabilities restrict the novel exploitable knowledge. However, the organizations with superior knowledge base are more capable of developing connections with external knowledge sources and benefit from them. Senge (1990) noted a rising perception in studies of organizational learning. The concept discusses that in turbulent circumstances only adaptable and productive organizations

can progress. Hence, it was believed that firms need to encourage individuals at any organizational level to be committed to learning. In order to develop this capacity, solid structures, capacities and tools need to be developed.

In this research in order to develop a model for organizational foresight, a second-order model that represents the multifaceted nature of organizational foresight was suggested. It concerns three levels of capabilities which are environmental scanning, strategic selection and integrating capabilities.

A model (figure 3.1) which is a second-order is presented because organizational foresight capabilities exist at a higher abstraction level than their fundamental procedures and actions. The organizational foresight capabilities' existence is not presumable without clarifying the specific processes which are essential for the enhancement and implementation of capabilities. By reviewing the previous studies, the particular elements of organizational foresight were recognized. The construct of organizational foresight was explained in detail to enable the development of a quantitative measurement.

3.3.1. Environmental scanning

Environmental scanning capability is the ability to recognize trends and events which exist in the firm's environment that enable the recognition of technological and market opportunities (Danneels, 2008). Environmental scanning's construct includes four variables as below:

- Time horizon

- Depth
- Strong tie sources
- Weak tie sources

3.3.1.1. Time horizon

Rohrbeck (2010) stressed the environmental scanning time aspect represents a time horizon which emphasizes short to long-term time horizons. Ruff (2006) believed both long to medium term are important to organizational foresight. On the other hand, some scholars argued that industry is what the time horizon depends on (Becker, 2002) while some scientists believe that planning short-term is the area which organizational foresight is significant for, since the scanning system suffers from intrinsic weaknesses such as blind spots which require it to be scanned on a regular basis and this is achievable by using organizational foresight (Day and Schoemaker, 2005).

Amsteus (2011) conducted research by asking managers of organizations to consider future plans, circumstances, and goals which are in less than two years' time. Amsteus applied Rohrbeck's (2010) approach in this study that pointed out environmental scanning needs to be part of the cause in all strategic planning's time horizons. Also, Rohrbeck et al., (2009) asserted that dissimilar time horizon scanning provides organizations with a chance to recognize the change in their development at diverse levels, and this enhances them to create inclusive strategies to respond to changes.

Therefore, Amsteus (2011) applied Rohrbeck's (2010) suggestion on time horizon's four-elements. Rohrbeck (2010) discussed various reports that reveal the process of planning with a short-term approach for a subsequent fiscal year which involves strategic planning only to a minor extent.

Plans of three to five years in the future are the outcomes of the planning process with a medium-term approach and the concentration is on examining existing markets. Plans with more than five years' view are considered as planning with a long-term approach. Such views have a plan to reach markets of the future and provide measures to react to possible disturbances.

3.3.1.2. Weak tie resources

Danneels (2008) believed that it is necessary for organizations to select suitable external information sources. Weak and strong ties can distinguish such sources. The study suggested a scale with six elements to evaluate the degree that employees of an organization have contact to information outside of the company as regards market trends and technological trends via external sources. Rohrbeck et al., (2009) applied eight measurement elements of informal sources:

- Internal networks
- Individual linkages and interactions
- Seminars and conferences
- Interviews with consumers and professionals
- Public R&D programs
- Panels of experts
- Associations of academia and industry
- Joint ventures and R&D associations

Ansoff (1975) and Hansen (1999) explained weak tie sources as taking advantage of external information sources where generally organizations have slight interaction, but they can generate theoretically novel information. The current study uses five elements of measuring weak tie

sources. Three of them are adapted from Danneels (2008) and the other two from Rohrbeck et al., (2009). Table 3.2 shows the items of weak tie sources.

Table 3. 2. Weak tie items

Items	Source
Professional association activities	Danneels (2008)
Scientific or professional conferences	
Scientific community	
Expert surveys	Rohrbeck et al., (2009)
Patents	

3.3.1.3. Strong tie sources

Julien et al., (2004) explained strong tie sources as benefiting from information sources where organizations generally have various social connections in daily work and/or that create familiar information. The table below shows the five items of strong tie items with their sources. Table 3. 3 indicates strong tie sources' items.

Table 3. 3. Strong tie items

Items	Source
Internet and media search	Rohrbeck et. al. (2009)
Trade shows	Danneels (2008)
Specialized journals and magazines	
Suppliers	Delgado (2011)
Customers	

3.3.1.4. Depth of scanning

The depth of scanning concentrates on environmental scanning scope, comprising the areas which presently appear to be irrelevant to the organization but possibly can create disrupting changes which are challenging to understand and be ready for (Reger, 2001; Rohrbeck, 2010). The source of depth of scanning which includes three items is research conducted by Rohrbeck (2010).

3.3.2. Strategic selection

Strategic selection discusses the activities in the organization which deal with detecting an ideal alternative for change in the organization (Zott, 2003). Three variables form strategic selection which are as below:

- Analyzing
- Visioning
- Planning

3.3.2.1. Analyzing

There are six elements of measurement based on Amsteus' (2011) study which is applied to measure variables that consider manager analysis based on two phases:

- Past
- Circumstances, plans, and objectives of possible future

According to Grim (2009), forecasting is an aspect of a model of foresight maturity described as long-term consequences which are dissimilar with the present to enhance more appropriate decision-making. Current research benefits from Bishop et al., (2007) study's description of analyzing which is an interpretation of gathered data on future circumstances and illustrating alternatives for the future. Based on Bishop et al. (2007) and Amsteus (2011), a scale including four items was designed. Three items contain key techniques which are applied for gathered data analysis and forecasting and one item examines whether organizations have analysis about circumstances of the possible future.

3.3.2.2. Visioning

According to Grim (2009), visioning is a significant aspect of the maturity model of organizational foresight. There are four steps of visioning which are as below:

- 1- Stakeholders' objectives, values, and ambitions
- 2- Follow the fundamental assumptions, adopted principles and values, and operative relics that found the culture.
- 3- Retain the exclusive influence that structures the moving onward perspective of the company.

- 4- Create the vision which is inspiring and stimulating, echoing with its followers' hearts and minds.

Rohrbeck et al., (2009) considered creating a vision as a method for organizational foresight. Current study benefits from the Bishop et al., (2007) definition of visioning which is selecting the desired vision of the future for the organization: visualizing the greatest consequences, setting the goals and measures of the performance. Four items form the visioning measurement scale and measures:

- 1- If the organization considers long-term goals which are dependable to its values and visions
- 2- If there is a systematic process of vision development.
- 3- If techniques of visioning are used, for instance, road-mapping
- 4- If all levels and sections of the company have full agreement on the vision (Bishop et al., 2007; Gibson and Birkinshaw, 2004; Sinkula et al., 1997).

3.3.2.3. Planning

Grim (2009) discussed planning as ascertaining the long-term vision of the organization supported by procedures and expertise and activities of the company by deploying routines of the organization. This study benefits from the suggested concepts of Bishop et al., (2007) and Gibson and Birkinshaw's (2004) illustrated scale which is developed by three items as below:

- 1- The company investigates various possible strategies and choices to attain its long-term objectives.
- 2- The organization stresses activity plans expansion which enhances development in the direction of the strategy of the organization.

- 3- The organization benefits from extensive business performance measurements alongside its objectives.

3.3.3. Integrating capabilities

Integrating capabilities are key components in distributing, reproducing, and preserving knowledge within the firm (Cepeda and Vera, 2007). Teece (2007) defines them as a current knowledge base, coordination and leadership within the organization. Three major variables form integrating capabilities as below:

- Leadership
- Coordination
- Knowledge base

3.3.3.1. Leadership

Prior studies revealed the significance of leadership and support of top managers in attaining organizational foresight and reassuring peripheral vision (Rohrbeck, 2010; Day and Shoemaker, 2005). Leadership is illustrated as the extent to which top managers enhance organizational culture to create a broader vision. This study applies three items for operationalizing the leadership based on Gibson and Birkinshaw (2004) and Rohrbeck (2010) who concentrate on qualities of leadership.

3.3.3.2. Coordination

Rohrbeck (2010) pointed out efficient coordination procedures as vital to achieving an efficient combination of novel knowledge. Coordination is explained as the capability of formal communications as well as informal communication that illustrates the communications' part and

effectiveness in the dispersion of information and insights of the future. A scale with three items was used for measuring coordination based on Rohrbeck's (2010) research as below:

- 1- There is an expectation for all employees in every unit to establish and keep networks with other sections in a formal and informal manner.
- 2- In the organization's hierarchy and functions, there is free sharing of information.
- 3- There is a robust coordination of activities across various departments.

3.3.3.3. Knowledge base

According to Maskel and Malmberg (1999), knowledge is set in persons in the form of particular skills or in the stable capital applied in the process of production. The current study knowledge base is illustrated as knowledge stock gathered in the company, personified by skillful employees and accumulated via in-house learning attempts (Guliani and Bell, 2005). Oerlemans and Meeus (2005) argued activities of in-house R&D and extremely educated employees are the best sources of capturing external knowledge hence, they are frequently applied for absorptive capacity measurement.

For measuring knowledge base, four items are applied based on Delgado (2011) and Dobni and Brook (2008) as below:

- 1- Estimating the personnel percentage who hold a master's or Doctorate's degree
- 2- Estimation of employee percentage who have a minimum of five years' experience of working in the industry sector of an organization's operation.
- 3- R&D spending's average with sales

- 4- Estimating if continuous organizational learning is stimulated and there is time and/or opportunity for refining skills.

3.4. Strategic planning

According to Noble (1999), ineffective strategic planning is the main cause of company failure and this is a puzzlement and the cause of defeat in various organizations. Ghobadian and O'Regan, (2000) argued that there are not many studies that concentrate on the strategy making procedure of SMEs. Nevertheless, available research mostly focused on strategy development procedures of large-scale organizations (O'Regan and Ghobadian, 2002). Considering the importance of SMEs in the business world there is a need to focus more on the strategic planning process in SMEs. This study is examining the mediating role of strategic planning between strategic thinking and organizational foresight and SME performance. For measuring strategic planning, items from reliable articles have been used as Table 3. 4 shows.

Table 3. 4. Strategic planning items

Items/questions	Source
Mission statement	Boyd and Reuning-Elliot (1998)
Trend analysis	
Competitor analysis	
Long-term goals	
Annual goals	
Ongoing evaluation	
short-term action plans	

It has been asked of respondents to rank the extent of stress for the above items in their organization. All of the items have been asked to be ranked by a five-point Likert scale. For

instance: the current section evaluates various common activities of planning. Please choose the extent of emphasis put on each activity in your company:

- a. A mission statement

3.4.1. Mission statement

According to Drucker (1973), it is not the organization's incorporation of articles or its statutes or its name which defines it, a business is defined by its mission. The only way to create probable vivid and truthful objectives for organizations is to define its mission and purpose. David (1989) pointed out Drucker's study is a basis for existing approaches toward mission statements that enquired "What is our Business?" which is similar to the question "What is our Mission?". Such questions indicate a statement of purpose which represents a cause for an enterprise's being. The confirmation of documents of the mission statement and its practices varies from firm to firm. Additionally, among top managers and planners of organizations, the perception of the vitality of the mission statement is broadly different. There is a cause of being for all organizations even though it is not written consciously by planners and top managers of organizations. Various executives and scientists believe wise preparation of a mission statement is the initial stage of strategic management. Mission statement usually involves nine aspects as Table 3. 6 clarifies.

Table 3. 5. Components of mission statement

Component	Description
Customers	It clarifies customers of the organization
Products or services	It clarifies enterprise's main products or services
Location	It clarifies the place of competition for the organization
Technology	It defines basic technology of the enterprise
Concern or survival	It clarifies an organization's obligation to economic goals
Philosophy	It clarifies the fundamental " <i>beliefs, values and main philosophical</i> " concerns of the organization
Self-concept	It clarifies key " <i>strengths and competitive advantages</i> " of the enterprise
Concern for public image	It signifies public responsibilities of the organization and the desired image of the firm
Concern for employees	It defines the organization's approach towards its employees

3.4.2. Trend analysis and competitor analysis

Boyd and Fulk (1996) pointed out an organization's environment illustrates essential restrictions and contingencies such as competitiveness and even its survival which relies on its capability of monitoring and altering to environmental trends. One tactic of acquiring information is informal environmental scanning (Hambrick, 1981; 1982; Daft et al., 1988). However, the single sources of environmental information are not senior managers, they have a vital part in acquiring external

intelligence. According to Hambrick (1981) managers can allocate as much as 25 percent of their time to environment monitoring.

Particularly, scanning can be vital for broad trend monitoring and recognizing opportunities of novel product-markets (Bourgeois, 1980). Smircich and Stubbart (1985) believed presenting basic data is the consequence of scanning that enhances managers to understand their environment (Smircich & Stubbart, 1985). Moreover, Jackson and Dutton (1988) argued that evaluating features of strategic issues is another outcome of scanning. In addition, Lorange et al., (1986) asserted that organizational control can be enhanced through vital information which scanning acquires. Boyd and Fulk (1996) believed environmental scanning is a vital task of senior managers. Enterprises rely on their top managers to monitor trends and issues externally and predict their enterprise's impact to define strategic plans. The study reveals that senior managers who place emphasis on the activity of acquiring information usually advance their organization's financial performance.

3.4.3. Long-term goals and annual goals

Goold and Quinn (1990) pointed out that one of the principles of strategic objectives for motivating executives in firms is setting long-term objectives and short-term milestones. Although Hrebiniak and Joyce (1986) believed managers naturally tend to respond to short-term instead of long-term objectives, strategic planning needs to emphasize a firm's long-term success along with having a balance with its short-term, budget planning (Goold and Quinn, 1990). Hrebiniak and Joyce (1986) suggested short-term objectives (milestones) need to be identified to implement the strategy ultimately.

Hrebiniak and Joyce (1984) believed that in order to attain long-term objectives, it is essential to identify operating goals which deliberately transform strategy in the form of controllable short-

term steps for implementation. The myopia of management is to be stimulated more by instant objectives rather than distant. Such a tendency is usually normal and healthy. To achieve constructive results from such a tendency, short-term measures of long-term strategic procedures should be established (Hrebiniak and Joyce, 1986)

3.4.4. Ongoing evaluation

According to Bungay and Goold (1991) organizations require keeping a balance among their short-term profits and long-term strategies but it is challenging in the long-term to manage the organization's position. However, for their long-term strategies, enterprises require using some particular progress measures to create control systems. In addition, strategic controls are specifically valued for the tasks of controlling, monitoring and leading operating departments' development. The control system is able to respond to all such inquiries. Moreover, they assist executives to react in an efficient time to business declines. The suitable controls can warn managers about the problems before they occur and can define the diagnosis that helps managers to correct problematic circumstances.

3.5. Short-term action plans

In the system of formal planning in the organization, the first step is an advanced strategic goal. Subsequently, this strategic goal will be broken down into further detailed plans which are the action plans. Consequently, operational controls and budgets will implement the action plans (Brews and Purohit, 2007). The action plans are the results of strategic planning teams which are created in different units. These teams are committed to develop those units' action plans (Obeng and Ugboro, 2008).

The actions plans are the ones which are accepted by team members; they are achievable and implementing them is possible. Action plans consist of “a description, metric, milestone, success criteria”. Moreover, they include information of a person who is responsible, the identified resources and a mechanism for feedback. The description of action plan characteristics is as below:

- metric means a measurable plan
- the milestone represents the suitable time for measurement
- success criteria identify when that team has achieved
- the person who is responsible is the one who will guide the team in its achievements
- the identified resources show the resources that the team has and their limitations
- and the mechanism of feedback clarifies the person or the process that decides how the action plans are being undertaken (Adkins et al., 2003)

3.6. Firm performance

Assaf et al., (2014) pointed out measuring the performance of the firm is a crucial aspect of business literature. Usually, firm performance which is embodied in operational ratio or financial ratio, efficiency of the firm and profitability of the firm, are widely discussed in the business research literature (Tan and Wang, 2010; Ussahwanitchakit, 2008).

According to Gartner (1997) for measurement of firm performance, growth of the enterprise is the main indicator. In addition, Markman and Gartner (2002) argued that many scholars have stressed the key role of growth in advancing an organization’s profitability and competitive advantage. Wiklund and Shephers (2005) mentioned that firm performance needs to be measured by two elements: firm growth and financial performance. This study uses a firm’s profitability and sales

as the main items of measuring SME performance. For measuring the financial aspect of firm performance, items were extracted from Moon's (2013) study which is as below:

"How successful was your company from an overall profitability standpoint? "

"Relative to competing firms, how successful was your company in terms of profits? "

"Relative to your firm's objectives, how successful was your company in terms of profits?"

"How successful was your company from an overall sales standpoint? "

"Relative to competing firms, how successful was your company in terms of sales?"

"Relative to your company's objectives, how successful was your company in terms of sales?"

"How successful was your company from an overall market-share standpoint?"

"Relative to competing firms, how successful was your company in terms of market share? "

"Relative to your company's objectives, how successful was your company in terms of market share? "

For measuring growth as a non-financial measure, the employment rate was applied, and the related item was extracted from Wood et al., (2015) as below:

"My company has grown in terms of the number of employees during the past 5 years. "

Firm performance items are shown in Table 3. 6.

Table 3. 6. Firm performance items

Items	Reference
My company was successful from an overall profitability standpoint during the past 5 years.	Moon (2013)
Relative to competing firms, my company was successful in terms of profits during the past 5 years.	
Relative to my firm's objectives, my company was successful in terms of profits during the past 5 years.	
My company was successful from an overall sales standpoint during the past 5 years.	
Relative to competing firms, my company was successful in terms of sales during the past 5 years.	
Relative to my company's objectives, my company was successful in terms of sales during the past 5 years.	
My company was successful from an overall market-share standpoint during the past 5 years.	
Relative to competing firms, my company was successful in terms of market share during the past 5 years.	
Relative to my company's objectives, my company was successful in terms of market share during the past 5 years.	Wood et al., (2015)
My company has grown in terms of the number of employees during the past 5 years.	

Table 3.7 shows the research questions, objectives and hypotheses of this study.

Table 3. 7. The research question, objectives, and hypotheses

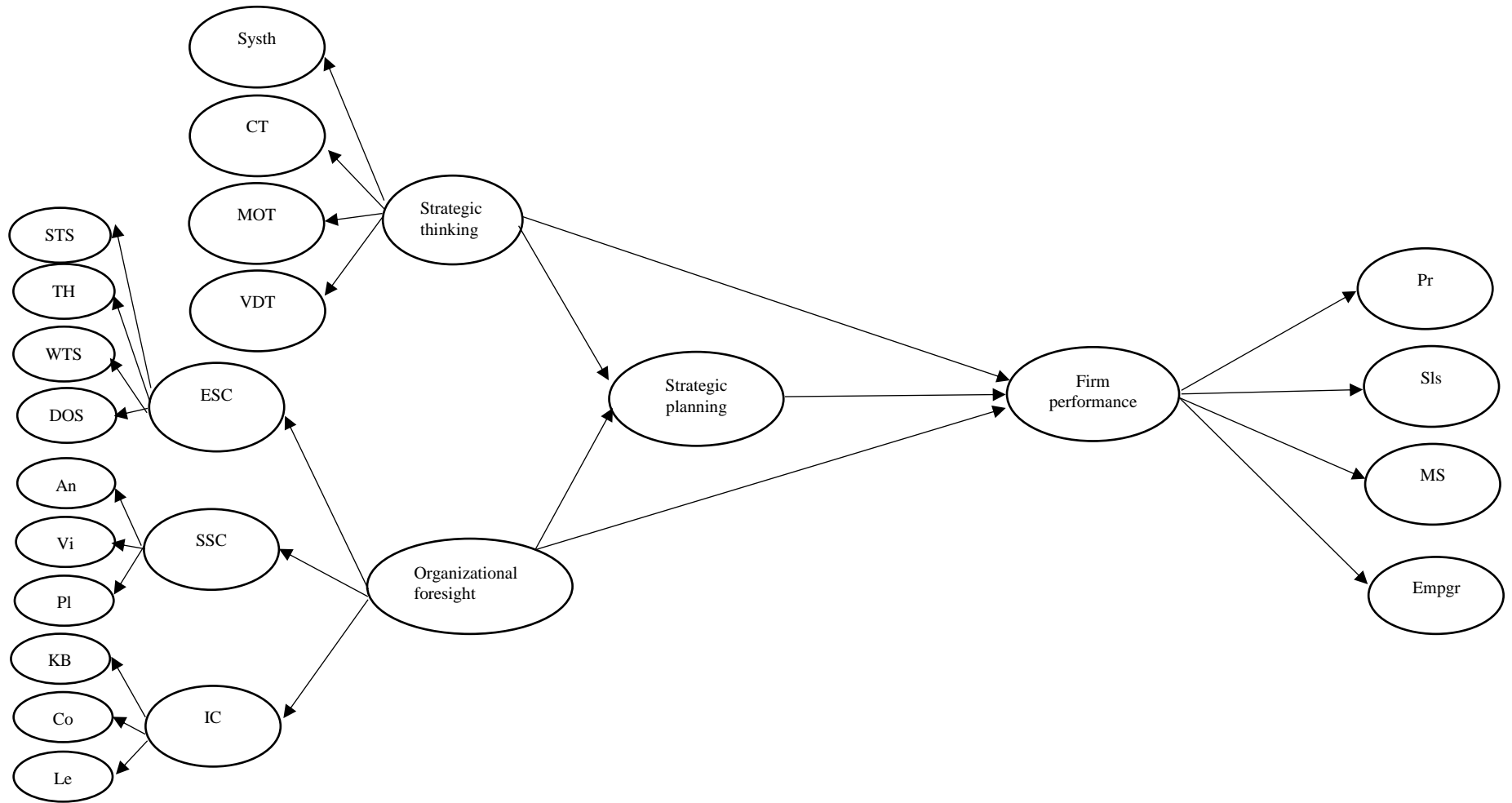
Q1: Do strategic thinking and foresight have a positive effect on firm performance?	Obj1: To investigate the relationship between strategic thinking and firm performance	H1: there is a positive relationship between strategic Thinking and firm performance.
	Obj2: To investigate the relationship between organizational foresight and firm performance	H2: there is a positive relationship between environmental scanning capabilities and firm performance H3: there is a positive relationship between strategic selection and firm performance H4: there is a positive relationship between integrating capabilities and firm performance
Q2: What is the mediating effect of strategic planning on the relationship between strategic thinking, organizational foresight and firm performance?	Obj1: To investigate the mediating effect of strategic planning on the relationship between strategic thinking and firm performance.	H5: there is a positive relationship between strategic thinking and strategic planning H6: there is a positive relationship between environmental scanning capabilities and strategic planning
	Obj2: To investigate the mediating effect of strategic planning on the relationship between organizational foresight and firm performance.	H7: there is a positive relationship between strategic selection and strategic planning H8: there is a positive relationship between integrating capabilities and strategic planning
	Obj3: To investigate the effect of strategic planning on firm performance.	H9: there is a positive relationship between strategic planning firm performance H10: strategic planning has a mediating effect between strategic thinking and firm performance. H11: strategic planning has a mediating effect between organizational foresight and firm performance.

3.7. The conceptual model

This study's theoretical framework is designed and proposed based on reviewing the extensive body of literature in the subject field. Four main variables have been used in the proposed model which are strategic thinking, organizational foresight, strategic planning, and firm performance. The proposed model examines the relationship between strategic thinking and organizational foresight on firm performance with the mediating role of strategic planning.

Chapter two stressed the importance of the field of study specifically small and medium enterprises known as SMEs, strategic thinking, organizational foresight, and strategic planning. Reviewing the literature reveals that there is a lack of empirical studies in the field of strategic thinking particularly in SMEs. Most of the studies examined the strategy in a large organization and there is a need to study SMEs behavior towards strategy-making processes. Considering the vital role of strategic thinking in organizations which is frequently stressed in the literature there is a gap in the studies in this field. The current study is a direct response to this gap by aiming to examine the role of strategic thinking in SME performance with a stress on the complementary use of organizational foresight as an aspect of strategic thinking. This is done by examining the mediating effect of strategic planning.

Figure 3. 1. The conceptual model of the research



CT: creative thinking, MOT: market-oriented thinking, Systh: systematic thinking, VDT: vision-driven thinking, ESC: environmental scanning capabilities, SSC: strategic selection, Integrating capabilities, STS: strong tie sources, WTS: weak tie sources, DOS: depth of scanning, An: analyzing, Pl: planning, Vi: visioning, Le: leadership, Co: coordination, KB: knowledge base, MS: market share, Pr: profit, Empgr: employment growth

3.9. Chapter summary

The current chapter has extensively discussed the conceptual framework's variables along with objectives and questions of the research. Literature review chapter was the ground for the development of chapter three. The variables of the framework are namely strategic thinking (creative thinking, vision-driven thinking, systematic thinking and market-oriented thinking), organizational foresight (environmental scanning capabilities, strategic selection capabilities and integrating capabilities), strategic planning (mission statements, trend analysis, competitor analysis, action plans, ongoing evaluation) and firm performance (profitability and number of employees).

Previous research suffers from a lack of empirical study which investigates the relationship between strategic thinking and SME performance directly. Moreover, the significance of the current study is presenting a model including three concepts of strategic thinking, organizational foresight and the mediating effect of strategic planning on SME performance. In the next chapter, methodology and research design will be discussed comprehensively. Additionally, techniques of data collection and their analysis will be argued.

Chapter four: Methodology

4.1. Introduction

The methodology chapter introduces the ways and methods which need to be undertaken to set certain steps which lead to reaching the objectives of the study. The research features are described extensively by methodology theoretically and practically. Moreover, the applied research philosophy of this study will be highlighted. This chapter aims to discuss six significant steps of the research namely, philosophies, approaches, strategies, choices, time horizons, and techniques and procedures of the research. There will be a brief explanation of necessary features which are being applied for this research as follows; research philosophies of positivism and interpretivism will be discussed. Then deductive and inductive research approaches will be asserted. In the next step, research strategies with quantitative strategy will be explained. Cross-sectional time horizon is being selected for this research and it will be discussed. For the final step, data collection techniques and its analysis will be argued extensively. In this chapter, research questions and research objectives will be outlined before discussing the named six steps.

4.2. Research steps

4.2.1. Research philosophy

This part of the chapter discusses *research philosophy*. Based on Saunders et al., (2007), the research philosophy that a study applies includes significant assumptions regarding the approach of the researcher towards the world. Such assumptions support research strategy; subsequently the methods which will be chosen by the researcher to approach the phenomena. Partially, practical concerns affect the research philosophy and mainly they influence the researcher's perspective on the association among knowledge per se and the development procedure of knowledge. The facts in research are considerations of the researcher; for instance, the necessary resources in a process

will make a considerable impact on the method. For research conducted by a researcher who is dealing with workers' emotions and approaches toward managers on the process of manufacturing, the possible strategies and methods may vary significantly. Moreover, the approaches toward important and useful facts change considerably.

Karami (2011) believed the research philosophy represents a philosophical perspective which outlines how a research needs to be practiced. Philosophy refers to “*the use of reason and argument in seeking truth and knowledge, especially of ultimate reality or of general causes and principles*”. Over time individuals' perspectives toward knowledge have altered and consequently, new research philosophies have appeared to cover the deficits of previous philosophies. Moreover, for many centuries only one research philosophy existed because all of the scientific accomplishments were the result of the natural sciences. The emergence of *social sciences* created a new research philosophy. So, the second research philosophy emerged with the development of social sciences.

Smith (1983) argued until the nineteenth century, the attention of research was on the physical world's objects; for instance, physics, which concentrates on connections among matter and energy. Observation and experiment were the systematic methods practiced by scholars and the logic which was used by them was inductive to find out explanatory theories to be able to predict phenomena. Their perspectives about knowledge of nature and the universe were rooted in positivism, and realism was the philosophical basis of positivism. Focus on social phenomena was the outcome of industrialization and capitalism (Karami, 2011).

4.2.1.1. Positivism

Based on Belgrave and Seide (2018), positivist researchers tend to deal with examinable social reality and the result can be generalized to similar conditions. In positivist research, the observable

phenomena result in generation of data which is credible. To produce such data an existing theory will be used by the researcher for hypothesis development. A whole hypothesis or part of it will be confirmed after being tested or rejected, which results in additional theory development (Saunders et al., 2007). Positivism stresses the attempts of creating, stating, and verifying hypotheses in terms which are operational and these terms form in certain quantitative ways which are convertible in maths formulas which reveal the variables association (Belgrave and Seide, 2018; Karami, 2011; McGrath and Johnson, 2003).

According to Yanow and Schwartz-Shea (2015), the positivist researcher does research independently in a way that has no influence on the subject, while the subject has no influence on the researcher either. Positivism is founded on the idea which stresses the independence of reality from us and the main objective is finding theories which are rooted in empirical studies. Knowledge is a consequence of “positive information” since “every rationally justifiable assertion can be scientifically verified or is capable of logical or mathematical proof” (Walliman, 2005; Karami, 2011). Nowadays, much business research is based on positivism and yet it concentrates on theories for clarifying and/or predicting social phenomena. Such researchers use logical reasoning rather than the subjective interpretation which is intuitive, to prove their approach (Yanow and Schwartz-Shea, 2015). From a positivist researcher’s perspective, the reality is not dependent on them; such researchers believe reality will not be affected by exploring social reality. Moreover, Gill and Johnson (2010) argued that methodology with a strong structure is practiced by the positivist researcher to enhance replication. Additionally, the observations which are quantifiable will be applied to make them applicable for statistical analysis (Saunders, 2009).

4.2.1.1.1. Deficits of positivism

Karami (2011) asserted that one of the criticisms of positivism is, separating individuals and the social context in which they live is impossible. Furthermore, understanding people without investigating their views about their own activities is not viable. Moreover, there are restrictions to strongly structured research that pays no attention to other applicable results. In positivist research, it is possible that a researcher's personal interests and values interfere with the research. Finally, it is deceptive to describe complex phenomena by a particular measure, for instance explaining the intelligence of an individual by allocating mathematical values is impossible (Saunders et al., 2007).

4.2.1.1.2. Interpretivism

Yanow and Schwartz-Shea (2015) believe that there are researchers who do not agree with traditional positivism and see the business and management world as too complicated to be theorized by certain rules of physical sciences. Such scholars believe that complex insights of the sophisticated world are lost if they are reduced to generalized rules. Interpretivism argues that it is essential for scholars to perceive the dissimilarities among people in their character as social actors. It stresses the dissimilarity among a study which observes humans and the research about objects. Moreover, Karami (2011) believed that interpretivism appeared as a consequence of positivism. It is rooted in the supposition that social reality exists in people's thoughts and is subjective. Hence, the act of exploration affects social reality. Research includes an inductive procedure through a perspective of attaining interpretive perception of social phenomena in a specific context. This approach concentrates on how experiences of people take place and how they play their role in social phenomena and the culture in which they exist.

Ormston et. al., (2014) argued that interpretivism is based on the idea that social reality is strongly subjective because of our understandings from it. Separating a being in the social context from the researcher's mind is impossible. Hence, the investigating act affects the social reality. The concentration of positivism is on social phenomena measurements; interpretivism concentrates on an exploration of social phenomena with an effort to attain interpretive perception.

Hence according to Karami (2012), instead of using quantitative methods which positivists practice, interpretivist researchers apply a variety of methods which “seek to describe, translate and otherwise come to terms with the meaning, not the frequency of certain more or less naturally occurring phenomena in the social world”. Based on Ormston et. al., (2014), there is a significant conclusion on the discussions regarding interpretivist and positivist approaches: the results of any interpretive research are not derivative of quantitative statistical analysis.

Table 4. 1. Philosophies' perspectives

Positivism	Interpretivism
Quantitative	Qualitative
Objective	Subjective
Scientific	Humanist
Traditionalist	Phenomenological

Source: Adapted from Karami (2011)

4.3. Advantages and disadvantages of the philosophies

4.3.1. Positivism

The advantages of the positivist approach: it is more economical to collect data on a large scale and the theoretical focus is clearer. Furthermore, in this approach the researcher could have control over the research procedure and the collected data could be compared easily (Karami, 2011).

The disadvantages of the positivist approach: it is not flexible especially after data collections start it is difficult to change the research direction. Moreover, the perception of social processes is poor in this approach; besides, positivism is not able to explore the meanings that are devoted to social phenomena by individuals (Saunders et al., 2007).

4.3.2. Interpretivism

Advantages of the interpretivist approach: it is easy to understand ‘how’ and ‘why’. Moreover, this approach helps researchers to be flexible to changes that could happen. Finally, social processes could be understood in a better way in this approach (Karami, 2011). The disadvantages of this approach are: collecting data consumes a lot of time and analyzing collected data is difficult. Moreover, the interpretivist researcher should be prepared that patterns which were presumed clear might not emerge. Finally, non-researchers, in general, believe that this approach is less valid (Saunders et al., 2007).

4.4. Positivism or interpretivism?

According to Yanow and Schwartz-Shea (2015), a thinking fallacy which could happen in choosing one approach is considering an approach ‘better’ than another approach. Their function could be better in undertaking certain things. The approach should be based on research questions

that the researcher wishes to answer. However, practically it is nearly impossible to consider research in a certain philosophical area. Research in the management area and business field is mostly a combination of “*positivist*” and “*interpretivist*”. Table 4.2 represents the main features of positivist and interpretivist approaches.

Table 4. 2. Main features of positivist and interpretivist approaches

	Positivism	Interpretivism
Sample size	Large	Small
Location	Artificial	Natural
Concern	Hypothesis testing	Generating theories
Type of data	Precise, objective, quantitative	Rich, subjective, qualitative
Results and findings	Results with high reliability but low validity	Findings with low reliability but high validity
Generalization	Allows results to be generalized from the sample to the population	Allow findings to be generalized from one setting to another similar setting

Source: Adapted from Karami (2011)

Creswell and Clark (2017) argued that the philosophical approach of any research has a significant influence on methodology and it represents characteristics of the researcher and his/her perspective toward phenomena. Consequently, this research’s philosophy represents the nature of the researcher and the repetitive and leading approaches which have been used by previous researchers in this area. This research applies positivism as its ontological position due to the attempt of being scientific research. Moreover, this study considers reality and depends on social phenomena.

Finally, this study's concern is hypothesis testing and it deals with quantitative data. Explanatory is this research's epistemology as the researcher attempts to describe reality because it is an effort to perceive the association between strategic thinking and firm performance. The philosophy of the current research is positivistic since this study is being conducted in businesses around the UK and economically it is more convenient for a broader data gathering and theoretical focus. In addition, the researcher's control over the research process is stronger and the gathered data is easier to compare.

4.5. Research approach

This section's objective is to clarify the current study's research approach. Every study includes applying a theory. In the design of the study, the theory may be made obvious or may not be; however, the theory will be made obvious in the finding of the study. At the start of the research the extent that the theory is clear results in a vital question which deals with the research design. This would lead to the point that you should apply the deductive or inductive approach (Saunders et al., 2007). In a deductive approach the researcher tries for the development of a hypothesis and/or theory and the strategy of the research will be designed in order to examine the hypothesis (Bahemia and Squire, 2010). While Creswell and Clark (2017) argued that in an inductive approach data will be collected and analyzed by the researcher to develop a theory as a consequence of analysis. These two approaches are associated with two diverse research philosophies. Positivism and deduction are associated with each other; on the other hand, interpretivism and inductive are related to each other.

4.5.1. Deductive: an approach to test a theory

Based on Collins and Hussey (2013) and Robson (2002), deduction is associated with scientific research and it includes a theory development which is a subject for testing. Deductive study includes five steps:

1. A hypothesis which is deduced from a theory in the form of a proposition which is testable and includes association among concepts or variables.
2. The hypothesis expression terms which are operational and that suggest association among variables or concepts. The operational terms precisely indicate the way that these variables and concepts need to be measured
3. Operational hypothesis testing.
4. Evaluating the particular result of the investigation which could lead to theory confirmation or signifies the necessity of modifying it.
5. If it is needed, modification of the theory based on results.

Karami (2011) asserted that the focus of the deductive approach is on scientific methods and it changes from theory to data. The deductive approach expresses the causality of associations among variables for collecting data and it applies to quantitative data. In this approach data validity and the precision of definitions are ensured by applying controls and operationalizing the concepts.

Such steps have been taken in this study as the hypotheses have been deduced from the previous studies which represent the association among strategic thinking, organizational foresight, strategic planning, and firm performance. In the next step, the hypotheses have been tested based on the collected data from SMEs and analyzed with AMOS software to clarify the hypotheses' support or rejection.

4.5.2. Inductive: an approach to build a theory

Creswell and Clark (2017) stated that natural sciences are the basis of the deductive approach but in the 20th-century the appearance of social sciences resulted in social science scholars becoming wary of the deductive approach. These scientists criticized the approach in that it helped scientists to find a causal association among specific variables while it was not able to help them with a perception about how the social world was interpreted by individuals. Enhancing such a perception is the inductive approach's strength. Furthermore, the inductive approach's followers criticize the deductive approach due to its tendency to develop an inflexible methodology which bans other descriptions of what is going on.

According to Easterby-Smith et al. (2002), a study which applies induction possibly deals with the context in which processes are happening. Hence, applying the deductive approach is more appropriate in studying a sample with a small size rather than a large number. Therefore, scholars which use induction possibly apply qualitative data for their study and use different methods for their data collection to develop diverse perspectives of phenomena. Yanow and Schwartz-Shea (2015) argued induction does not deal with existing theories and by applying it the scientists investigate data for developing theories. Hence, induction requires substantial analysis to generate novel theories. Furthermore, induction mainly concentrates on perceiving individuals' behavior in a social context. Gathering data in this method is qualitative and the outcome is the development of new theories; consequently, its structure is flexible.

The current study is aiming to investigate the relationship among variables and it aims to drive hypotheses from theories and to test the hypotheses. Consequently, considering the nature of existing research and the necessity of the conceptual model and hypotheses testing it has been

concluded that the deductive approach is a suitable approach for the study and the method which has been applied is a quantitative method.

According to Ghauri and Gronhaug (2005), reviewing research methods literature reveals that there are debates on suitable techniques or appropriate methods for scientific study. Some scholars argue that structured methods and quantitative methods are more scientific and subsequently they are better than other methods. Generally, the nature of being quantitative does not mean that the techniques are better or more scientific. However, the research problems and objectives signify the most appropriate techniques and methods.

Creswell and Clark (2017) argued that research methods express a structured, concentrated and organized data collection to fulfill the objective of gathering information for answering or solving a specific question or problem which is discussed in the research. The techniques of collecting data are dissimilar to methods. The methods refer to “data collection through historical review and analysis, surveys, field experiments, and case studies”. On the other hand, techniques represent a sequential process that the researcher follows to collect data for analyzing to find solutions to questions of the study. In business research, generally “structured, semi-structured or unstructured interviews, surveys, and observations” are the practiced techniques.

Based on Brannen, (2017), quality is not the dissimilarity of quantitative and qualitative studies; the major dissimilarity is the process. The results of the qualitative study are not processed by methods of statistics or further quantification processes. Generally, the major difference of quantitative and qualitative study is that quantitative scientists use measurement while qualitative scholars do not follow measurement (Bryman and Bell, 2003). According to Bernard (2017), studies with quantitative methods practice quantification in data collection and data analysis. On

the other hand, words are being used in qualitative research instead of quantification. Therefore, in some features, there are dissimilarities between qualitative and quantitative studies.

Choy (2014) argued that the major dissimilarity is the procedure. Quantification processes or statistical techniques do not identify the results of qualitative research. In general, quantitative scientists use measurement while qualitative scholars do not use it, and this is the basic difference between these two methods. Ghauri and Gronhaug (2005) pointed out the quantification question is not the only difference of quantitative and qualitative methods; knowledge and objectives of the research are also differences. Table 4.3 shows the differences between qualitative and quantitative approaches.

Table 4. 3. Qualitative and quantitative

Emphasis	Qualitative	Quantitative
Focus	on understanding	Testing and verification
Approach	Understanding from the respondent's/informant's point of view	On facts and/or reason for social events
Measurements	Interpretation and rational	Logical and critical
Subjective/objective	Observation and measurements in natural settings	Controlled measurement
Orientation	Subjective "insider view" and closeness to data	Objective "outsider view" distant from data
Process/result	Explorative orientation	Hypothetical-deductive; focus on hypothesis testing
Perspective	Process oriented	Result oriented
Generalization	Holistic	Particularistic and analytical
Emphasis	By comparison of properties and contexts of an individual organism	By population membership

Source: adapted (Ghauri and Gronhaug, 2005)

The qualitative study stresses on exploring and is as detailed as imaginable; the examples are smaller in terms of number and they are viewed as being remarkable. The aim is not achieving breadth, achievement in depth is the objective (Blaxter, 2010). Explanatory, descriptive and

exploratory studies can apply every strategy (Yin, 2003). Saunders et al., (2007) pointed out some are appropriate for deductive and some are fit for the inductive approach. It should be stressed that there is no superiority or inferiority among research strategies. As a result, it is significant not to be labeled by a specific strategy, it is important to answer the precise research question/questions and fulfill the objectives. The study's questions and objectives, knowledge amount, available resources and time, and the researcher's philosophical foundations are key. It needs to be understood that the strategies had better not be considered as jointly exclusive. As an example, it is probable in a case study to use survey strategy. According to Karami (2011), research strategies are categorized into five groups namely, experiment, survey, case study, action research, grounded theory, and archival research. This study is analytical research. The survey, interview, and observation research design are associated with analytical research and this study applies a survey. Furthermore, Brannen, (2017) discussed that a quantitative and deductive approach has a linkage with survey strategy. The survey strategy is practiced by attaining a broad range of attitude and decision information. SMEs are geographically placed widely in the UK and they have a big population size; this led to choosing the method for this study. In case that data collection from a phenomenon is not possible to be detected directly, this method can be helpful and beneficial. This study applies a deductive approach for various reasons. Initially, the hypotheses were deduced from a theory which needs to be tested including the relationships between the variables. After

testing and investigation, the theory can be confirmed or modified. Plus, it benefits from quantitative methods.

4.6. Data collection

This study aims to target UK's high-tech small and medium enterprises. SMEs were chosen as contemporary research stress widely on the importance of them in the business world (Wang et al., 2007). The sample of this study is high-tech SMEs which are operating in the United Kingdom. Ghauri and Gronhaug (2005) pointed out surveys represent a technique of collecting data which uses questionnaires or interviews for having a record of respondents' verbal behavior. The survey is an influential tool to collect data for a cause-and-effect association and data of respondents' thoughts, behaviors, and descriptions. There are factors which might have an impact on respondents' responses. Table 4.4 illustrates the elements which affect responses.

According to Dalati and Gómez (2018), in business research, surveys and questionnaires are considered one of the most widespread methods for collecting data. Descriptive and/or analytical questionnaires are the major types. After the formulation of the problems of the research and defining clearly the objective of the study, the survey type which should be undertaken will be determined, which is descriptive or analytical.

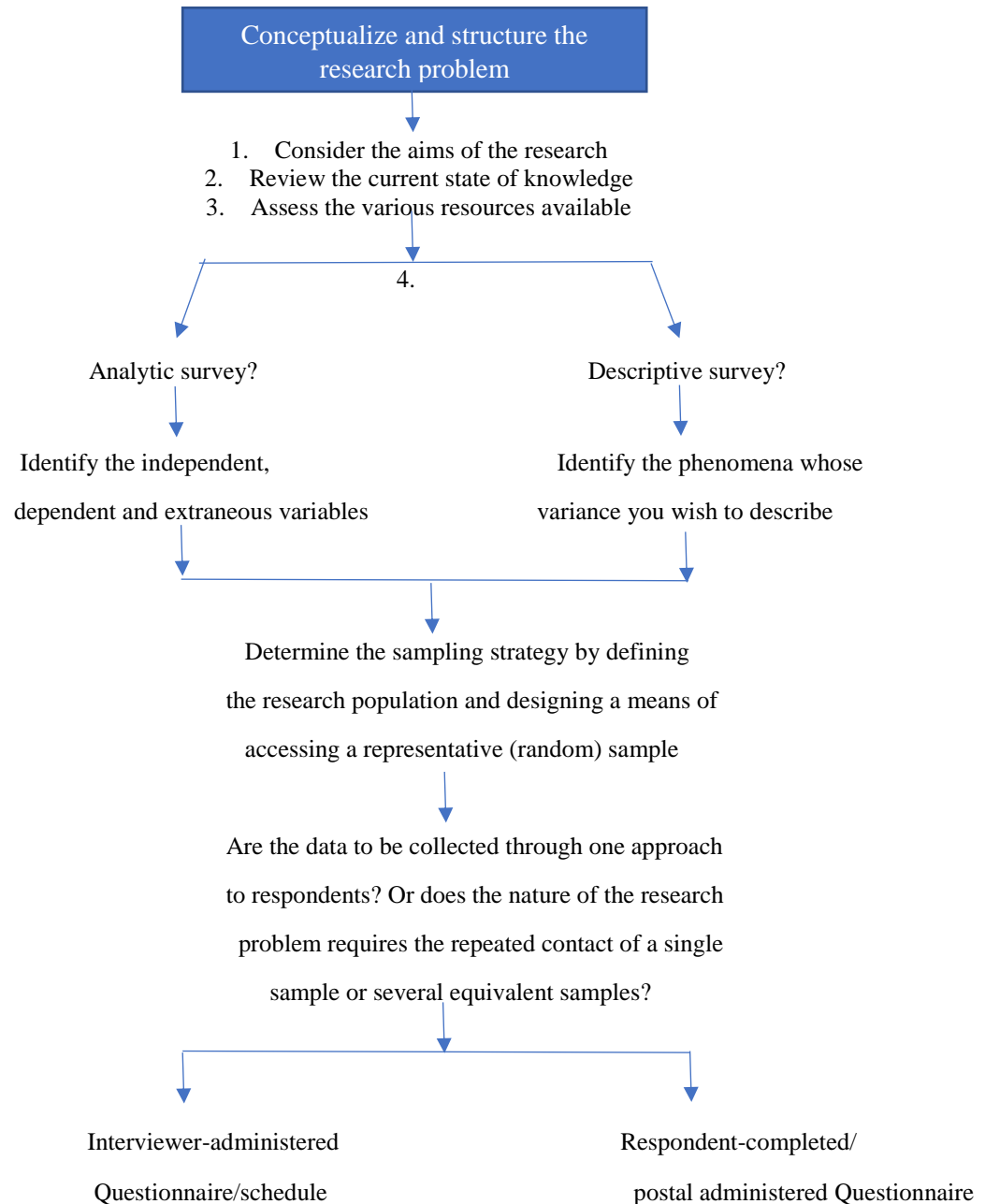
Table 4. 4. Elements which affect responses

Factor	Description
Sponsor	A respondent might be discouraged to respond appropriately if a specific organization sponsors the research.
Appeal	The researcher appeals on the significance and usefulness of the respondent's answers.
Stimulus	Financial or non-financial reward proposed to the respondent in case they answer.
Questionnaire format	Questionnaire characteristics such as layout, color, form might influence respondent answers.
Covering letter	Respondent might be strongly influenced by manner and posture of covering letter.
Stamped and self-addressed envelope	It will be inferred by the respondent that he/she will not suffer any expenses by answering the questionnaire. Furthermore, it will make responding easy.

Source: Adapted from Ghauri, and Gronhaug (2005)

According to de Vaus, D. (2016), it is vital that the survey objective is clear. It will clarify the target population; moreover, it allows the researcher to have a correct formulation of the questionnaire. Once the target population is chosen, the list of population members should be recognized, and it is named frame of sampling. Sometimes the frame of sampling is difficult to achieve, or it is not accessible; subsequently obtaining a representative sample turns out to be more problematic, but not impossible.

Figure 4. 1. Surveys



Source: adapted from Gill and Johnson (1991)

According to Neuman (2016), after selecting the target population and identifying the suitable sampling frame, selecting the sample is necessary. The results of poor sample selecting will be imprecise as a consequence of sample bias. The bias is the consequence of selecting a sample which does not represent the target population appropriately. Attaining information about the population is the objective of the survey. Sample result correctness relies on sample size: if the sample size is larger, the results will be more accurate. Although the used method to collect data will be based on the survey's cost and accuracy, the large size sample will cost more. Data collection techniques vary from interviews which take place face to face to a postal questionnaire. Some data collection techniques cost more but the rate of response is guaranteed; however, other techniques are not expensive to conduct but there is a possibility that the responses will be poor. Table 4.5 indicates the data collection methods.

Table 4. 5. Data collection methods

	Postal questionnaire	Telephone interviewing	Face-to-face interviewing	online
Cost	Low	Moderate	High	Low
Response rate	Low	Moderate	High	Moderate
Speed	Slow	Fast	Fast	Fast
The quantity of information collected	Limited	Moderate	High	Limited
Quality of information collected	Depends on how well the questionnaire has been designed	Good	High	Depends on how well the questionnaire has been designed

Source: Adapted from Karami (2011)

Based on Dalati and Gómez (2018), some researchers apply questionnaires for data collection without studying other techniques such as observations or interviews. For doing research, it is more appropriate to consider all probable methods of collecting data and to select the one which suits the research objectives and research questions. Usually, questionnaires are not suitable for exploratory research or other types of study which need an enormous number of questions that are open-ended. Questionnaires are most appropriate for the standardized questions which will be perceived by all respondents similarly.

Hence, for explanatory studies or descriptive research a questionnaire is appropriate. The descriptive study enables the researcher to recognize and explain diverse phenomena variability such as a questionnaire which tries to examine opinion and attitude and organizational practices. On the other hand, the explanatory or analytical study allows the researcher to evaluate and describe association among variables, specifically cause-and-effect associations. The mentioned studies require diverse requirements of research design (Gill and Johnson, 2002).

However, questionnaires might be practiced as a single method for collecting data; generally, it is more appropriate to connect them in a multiple-methods study design with other methods. For instance, a questionnaire which is designed to reveal attitudes of consumers could be supplemented by interviews which are in-depth to discover such attitudes. Furthermore, compared to interviews (semi-structured and in-depth), if the questionnaires are designed properly they need less sensitivity and skills (Jankowicz, 2005).

Dalati and Gómez (2018) argued that the questionnaire design varies based on the way it is managed and the contact amount of researcher and respondents. Typically, the respondents complete the *Self-administered questionnaires*. *Internet-mediated questionnaires* are the

questionnaires which are managed on the Internet. *Intranet-mediated questionnaires* use the intranet. *Mail or postal questionnaires* are the ones which respondents receive by post and after completing them they will return them to the researcher. *Delivery and collection questionnaires* are the ones which respondents receive as they are delivered by hand and later they will be collected. Interviewer records *Interviewer-administered questionnaires*' responses based on the answers of every respondent. In the market research area, there is an increasing interaction with respondents by telephone and they are recognized as *telephone questionnaires*. Finally, *structured interviews* represent the questionnaires which interviewers and respondents physically encounter, and the questions are asked face to face; this method is also identified as *interview schedules*. Saunders et al., (2007) asserted that there are differences between semi-structured and unstructured which are also known as in-depth interviews. The interviewer should not diverge from the defined question schedule. Questionnaire types are presented in Table 4.6.

Table 4. 6. Questionnaire types

Questionnaire	Self-administered	Delivery and collection questionnaire
		Postal questionnaire
		Internet-mediated questionnaire
	Interviewer-administered	Telephone questionnaire
		Structured interview

Source: adapted from Saunders et al., (2007)

According to Fink (2015), choosing the type of questionnaire is affected by diverse factors which are associated with questions of the research and its objectives, and especially by the following factors:

- The respondents' characteristics whom the researcher intends to contact for data collection;
- The significance of accessing a specific individual as respondent;
- The significance of respondents' responses not being misleading;
- The sample size which the researcher needs for his/her analysis, considering the possible rate of response;
- Forms of questions that the researcher requires for data collection;
- The number of questions that the researcher requires for examining the data collection.

Table 4.7 includes the main attributions of questionnaires.

Table 4. 7. Main attributions of questionnaires

Attribute	Internet or intranet mediated	Postal	Delivery and collection	Telephone	Structured interview
Population's characteristics which are suitable	Computer-literate individuals who can be contacted by email, internet or intranet	Literate individuals who can be contacted by post; selected by name, household, organization etc.		Individuals who can be telephoned; selected by name, household, organization etc.	Any; selected by name, household, an organization in the street etc.
Confidence that right person has responded	High if using email	Low	Low but can be checked at the collection	High	High
Likelihood of contamination or distortion of the respondent's answer	Low	May be contaminated by consultation with others		Occasionally distorted or invented by the interviewer	Occasionally contaminated by consultation or distorted/invented by the interviewer

Size of sample	Large can be geographically dispersed		Dependent on the number of field workers	Dependent on number of interviewers	
Likely response rate	Variable, 30% reasonable within organizations/via internet, 11% or lower using internet	Variable, 30% reasonable	Moderately high, 30-50% reasonable	High, 50-70% reasonable	High, 50-70% reasonable
Feasible length of the questionnaire	Conflicting advice; however, fewer “screens” probably better	6-8 A4 pages	6-8 A4 pages	Up to half an hour	Variable depending on location
Suitable types of question	Closed questions but not too complex, complicated sequencing fine if uses IT, must be of interest to respondent	Closed questions but not too complex, simple sequencing only, must be of interest to respondent		Open and closed questions, but only simple questions, complicated sequencing fine	Open and closed questions, including complicated questions, complicated sequencing fine
Time is taken to complete collection	2-6 weeks from distribution (dependent on the number of follow-ups)	4-8 weeks from posting (dependent on the number of follow-ups)	Dependent on sample size, number of field workers etc.	Dependent on sample size, number of interviewers, etc., but slower than self-administered for same sample size	

Main financial resources implications	Web page design, although automated expert systems offered online and by software providers are reducing this dramatically	Outward and return postage, photocopying, clerical support, data entry	Field workers, travel, photocopying, clerical support, data entry	Interviewers, telephone calls, clerical support, photocopying and data entry if not using CATI (computer-aided telephone interviewing). Programming, software and computers if using CATI.	Interviewers, travel, clerical support, photocopying and data entry if not using CAPI (computer-aided personal interviewing). Programming, software and computers if using CAPI.
Role of interviewer/field worker	None	None	Delivery and collection of questionnaires, enhancing respondent participation	Enhancing respondent participation, guiding the respondent through the questionnaire, answering respondents' questions	
Data input	Usually automated	Closed questions can be designed so that responses may be entered using optical mark readers after questionnaire has been returned		Response to all questions entered at time of collection using CATI	Response to all questions can be entered at time of collection using CAPI

Source: adapted from Saunders et al., (2007)

4.7. Sampling

As a result of the large number of SMEs in the UK, the high-tech sector was narrowed down to sub sectors namely: information technology, software development, and telecommunication firms. In order to select the targeted high-tech SMEs, the list of companies has been received from Companies House and they have been selected by stratified random sampling since in this method the selected sample characterizes the total population of the study appropriately (Padilla et al., 2017). The relevant industry sector has been chosen based on SIC Code 2007 from Section J Information and communication which is categorized as a high-tech sector. Moreover, in order to collect data, 900 postal questionnaires have been sent to the sample firms along with a cover letter which describes the study subject, confidentiality terms and the information of the researchers. Consequently, 145 responses were received. From the received responses, 22 questionnaires have been excluded from the analysis due to relevant response errors and insufficient reliability. Subsequently, 123 questionnaires have been validated for the data analysis.

4.8. Questionnaire design

Karami (2011) pointed out seven steps for questionnaire designing or scheduling interview as follows; question designing and setting instructions, regulating presentation sequence, writing letter of request, having the questionnaire tested on small size sample, selecting how the questionnaires need to be distributed and returned, deciding how to deal with non-responses and reliability and validity test.

Oakshott (2012) argued that designing the questionnaire is less science and more about art. There is not a suitable global design that fits all circumstances. Although Fink (2015) stated that there

will not be questionnaires exactly the same, there are points which should be considered for most questionnaires as follows:

- The questions should be asked briefly with concise wording and minimum jargon. There is no need to clarify the meaning of a specific question to respondents.
- The questionnaire length should be kept to a minimum. For surveys, approximately 20 questions maximum is a decent guide.
- The questions should be easy to respond to.
- The questions should be as precise as possible. The design should be in a form that avoids dissimilar interpretations.
- The question arrangement should follow a logical order.
- It is more suitable to start with modest questions such as age, and the difficult ones should be left for later.
- The most vital questions should not be ordered as the last questions. In case the respondent is bored they can be left incomplete.
- Leading questions should not be applied. Instead of asking “Do you agree that indirect taxation in the UK is too high?” it is appropriate to ask, “What are your views on the level of indirect taxation in the UK?”
- Personal questions should be avoided. The questions related to salary are sometimes considered as personal; in this case, it is appropriate to use salary amount in ranges. If there is a need for personal information, it is recommended to interview face to face by interviewers who are experienced.
- In case not all the questions are relevant to all respondents, a filtering technique should be applied. For instance, if the question is related to a specific episode of a TV series and there

are respondents who do not watch the episode, it is necessary to have instructions for them to allow them to skip to the next suitable question.

- There should not be two questions combined in one question. For instance, if the question is related to a job it should not be asked: “Do you find your job exciting with a high salary?”. It is not likely that the respondent is able to answer with a modest yes or no.
- The question should not be asked in a way that depends on memory. If the subject of the question is an episode of a TV series, for instance, it is suitable to ask whether the respondent watched last night’s episode but asking about weeks ago or months ago can provide unreliable outcomes.
- Hypothetical questions should not be inquired. Asking respondents about hypothetical circumstances probably leads to unreliable outcomes. In some survey cases, it is unavoidable to ask such questions; in this situation wording needs more attention.
- Close-ended questions are generally more appropriate instead of open-ended ones. It should be considered whether a choice of “other” is needed. For instance, if the question is about property type and the choices are terraced house, semi-detached, detached and flat, “other” is necessary as a respondent might live in another type of property.
- The questionnaire should be attractive and not difficult to respond to. There are features in Microsoft Word that helps researchers to design forms for practice as questionnaires. They can be distributed as attachments of an email if it suits the sample.
- A pilot study is necessary on a sample which is small but demonstrative of the target population. It allows the researcher to test the design of the questionnaire (Fink, 2015).

According to Creswell and Clark (2017), most of the measures of the rating scales such as Likert include a range of 5 or 7 choices. However, the mind of individuals has an absolute judgment span

capable of differentiating about seven dissimilar classifications, at the same time it is capable of encompassing six items by attention span. Consequently, designing response choices of more than seven might be pointless. Hence, current research practices Likert scales with five points. Furthermore, response choices with odd numbers usually are chosen over even ones since they make it possible for the middle category to be perceived as a neutral choice.

This study used a stratified random sampling technique since it represents the studied population as the researcher stratified the whole population prior to the use of random sampling. Plus, it allows every subcategory of the population to get suitable representation within the sample. In conclusion, according to Jing et. al., (2015), stratified random sampling enables researchers with more comprehensive population coverage since they can take control of their subgroups to guarantee representativeness in the sampling. The current study's questionnaires have been sent to high-tech SMEs across the UK. Each statement includes five point scales of Likert and the choices are Strongly Disagree, Disagree, Neutral, Agree, Strongly Agree.

4.9. The construction of the questionnaire and sample of the study

After an extensive search in the literature and careful reading of each article, the variables of the questionnaire were chosen. Subsequently, the variables have been taken from high ranked journals to increase the credibility of the research. The total items of the questionnaire are 62. Organizational foresight has been measured by 35 items, strategic planning by 7 items, strategic thinking by 10 items, and firm performance by 10 items. Each item has been measured by a five-point Likert scale from strongly disagree, disagree, neutral, agree and strongly agree. Consequently, the developed questionnaire was sent to Bangor University's College of Business, Law, Education and Social Sciences' Ethics Committee in order to be approved to commence the

research. The approval demonstrates that the research adheres to Bangor University's Research Ethics Policy. Figure 4.2 presents the approval letter.

Figure 4. 2. Research Committee's approval letter

**COLEG BUSNES, Y GYFRAITH, ADDYSG A GWYDDORAU
CYMDEITHAS
COLLEGE OF BUSINESS, LAW, EDUCATION AND SOCIAL
SCIENCES**



9 September 2016

Dear Masoud

Re: Strategy and foresight in UK SMEs

Thank you for your recent amended application to the CBLESS Research Ethics Committee.

The committee has considered your application and I am now able to give permission, on behalf of the CBLESS Research Ethics Committee, for the commencement of your research project.

I wish you well with your research.

Yours sincerely



Dr. Diane Seddon
Chair, College Ethics Committee

cc – Dr A Karami

4.10. Pilot Study

After preparing the first draft of the questionnaire it was sent to 15 professors, senior lecturers, and lecturers of Bangor Business School for content validity. Subsequently, 10 responses were collected, and the necessary amendments and changes undertaken based on their points of view. After finalizing the questionnaire, it was ready to be sent to the sample. In this study, the sample is chosen from the SMEs which are active in the high-tech sector. This sector is narrowed down to SMEs which are operating in Information and Communication sub-sectors. The sectors were extracted from SIC (Standard industrial classification of economic activities, 2007) list which is published by Companies House. The sample SMEs are Publishing of Computer Games (code 58210), Wired Telecommunications Activities (code 61100), Wireless telecommunications activities (code 61200), Satellite telecommunications activities (code 61300), Other telecommunications activities (code 61900), and Information technology consultancy activities (code 62020).

As a result of correspondence with Companies House, the list of the companies was sent to the researcher by email. The list contained companies operating in the UK. Based on the SIC codes the relevant companies' lists were extracted amongst other companies, and they were categorized based on the characteristics of small and medium-sized companies. Subsequently, the questionnaires were printed and attached to envelopes to be sent to the sample SMEs. Each envelope consisted of a consent form, participant information sheet and a prepaid envelope for respondents to send back their responses.

4.11. Chapter summary

This chapter has included the research question, research objectives and research hypotheses based on considering a broad range of literature and spotting the gaps required to be covered. The chapter proposes applicable methodology which develops a response to the observed gap in the literature regarding the SME strategy-making process. This research applies a positivistic research philosophy and deductive approach to view the studied sample. Plus, quantitative methods have been used for this research based on a survey research design and postal questionnaire. Besides, a conceptual framework was developed and presented in this chapter which illustrates a model of the study and its variables of strategic thinking, organizational foresight, strategic planning, and firm performance. In the next chapter, the data analysis processes and results are discussed.

Chapter five: Data analysis

5.1. Introduction

This chapter aims to discuss the outcomes of the data analysis which is grounded in this study's empirical research. Furthermore, the following chapters will interpret the data analysis which is related to the research questions of the study. Subsequently, there will be discussion based on the existing theories which have been presented in earlier chapters. In this section, the application of the descriptive analysis provides a clear view of data distribution to choose the most suitable method to test the hypotheses of the study with a statistical test.

The second section, the data related to strategic thinking, strategic planning, and organizational foresight in small and medium size enterprises (SMEs) will be analyzed. And the last section will discuss multivariate analysis between the study variables. In the present section, the collected data through the questionnaire will be analyzed based on appropriate statistical techniques and the results will be presented based on descriptive and inferential statistical methods. Descriptive statistics such as frequency and percentage were used to analyze and discuss the information about the typical characteristics of respondents. In this chapter's charts and figures, ST represents strategic thinking, F represents organizational foresight, SP represents strategic planning, and FP represents firm performance.

5.2. Descriptive statistics

In this section, the characteristics of the respondents and the firms are discussed. Regarding respondents, their age, work experience, position, and education are presented. In addition, firm age, location, number of employees, and industry sector are discussed in further sections.

5.2.1. *Age*

According to SPSS analysis, 38% of the sample is between 40 and 49 years old and 37% of the respondents are 50 years old or more; 9% of the sample is aged 20-29 (the smallest). This

feature is described in figure 5.1. It can be concluded that the majority of the respondents belong to the older age group which is 40 years old or more. In table 5.1 working experience of participants and the relationship with their age is presented and shows the most experienced respondents have participated in this study.

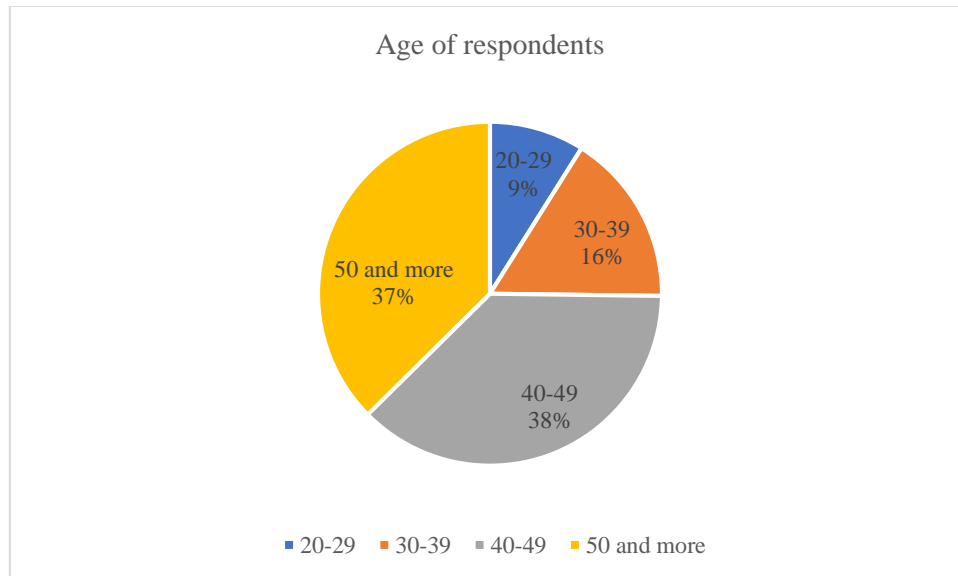


Figure 5. 1. Sample categorization by age

5.2.2. Gender

According to SPSS analysis, 79.7 percent of the sample are male, and 20.3 percent of the sample are female. This feature is illustrated in figure 5.2. This reveals most high-tech managers and executives are male.

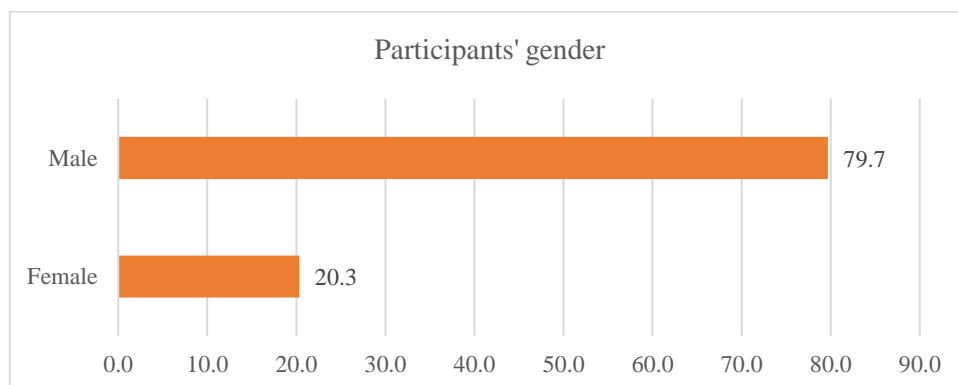


Figure 5. 2. Respondents' gender

5.2.3. Work experience

In the questionnaires it has been asked from respondents to categorize their work experience in different year bands. The results revealed that 55.3% of the sample are respondents with job experience of 20 years or more, 13.8% have experience between 16-20 years, 13% have worked between 11-15 years, 10.6% have experience between 6-10 years and 7.3% of the respondents have work experience of fewer than 5 years. This information is presented in figure 5.3.

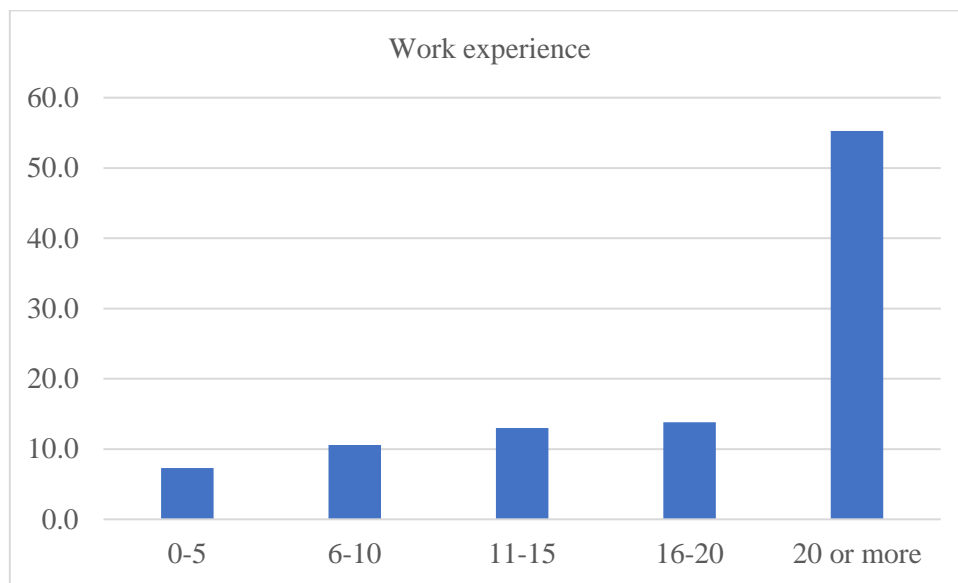


Figure 5. 3. Sampling based on work experience

Moreover, table 5.1 presents participants' age and their working experience.

Table 5. 1. Age of respondents and their work experience

Working experience of participants * Participants age Crosstabulation							
			Participants age				Total
			20-29	30-39	40-49	50 and more	
Working experience of participants	0-5	Count	7	0	2	0	9
		% of Total	5.7%	0.0%	1.6%	0.0%	7.3%
	6-10	Count	2	8	3	0	13
		% of Total	1.6%	6.5%	2.4%	0.0%	10.6%
	11-15	Count	2	8	6	0	16
		% of Total	1.6%	6.5%	4.9%	0.0%	13.0%
	16-20	Count	0	4	11	2	17
		% of Total	0.0%	3.3%	8.9%	1.6%	13.8%
	20 or more	Count	0	0	24	44	68
		% of Total	0.0%	0.0%	19.5%	35.8%	55.3%
Total		Count	11	20	46	46	123
		% of Total	8.9%	16.3%	37.4%	37.4%	100.0%

5.2.4. Position

According to the results, most of the respondents are owner/founder representing 56.9% of the sample. Then, 24.4 % are owner/managers, 9.8% are senior manager, 6.5% middle manager, and 2.4% are line managers. Hence, it can be concluded that the majority of this study's respondents are managers who are involved in the decision-making process. Figure 5.4 illustrates the mentioned description.

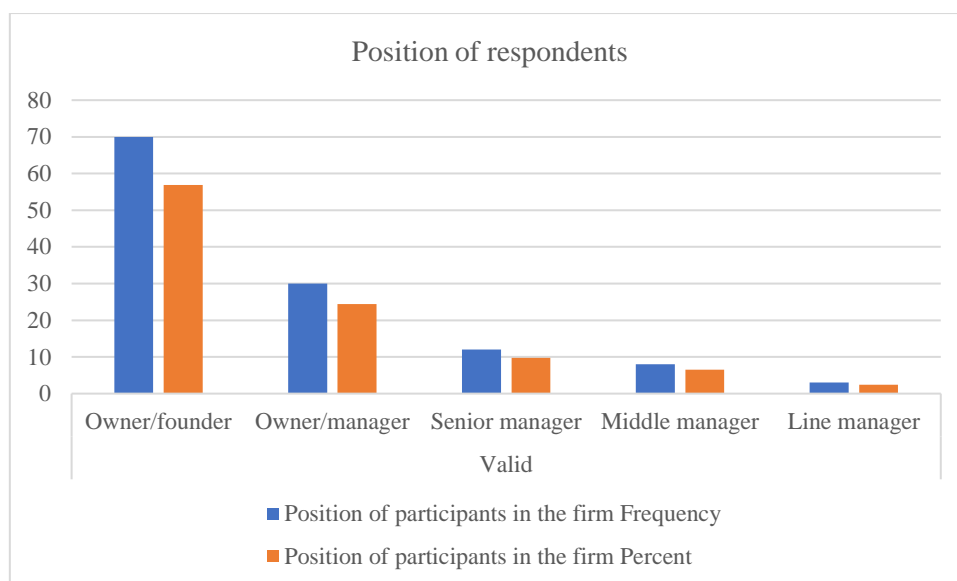


Figure 5. 4. Sample categorization based on position

In addition, table 5.2. illustrates the association between respondents' job position and their gender which demonstrates the vast majority of managerial positions in high-tech SMEs are occupied by men.

Table 5. 2. Respondents' job position and their gender

Position of participants in the firm * Participants gender Crosstabulation					
			Participants gender		Total
			Female	Male	
Position of participants in the firm	Owner/founder	Count	8	62	70
		% of Total	6.5%	50.4%	56.9%
	Owner/manager	Count	10	20	30
		% of Total	8.1%	16.3%	24.4%
	Senior manager	Count	1	11	12
		% of Total	0.8%	8.9%	9.8%
	Middle manager	Count	5	3	8
		% of Total	4.1%	2.4%	6.5%
	Line manager	Count	1	2	3
		% of Total	0.8%	1.6%	2.4%
Total		Count	25	98	123
		% of Total	20.3%	79.7%	100.0%

5.2.5. Education

According to the results, most of the respondents hold bachelor's and masters' degrees. This is shown in figure 5.5. Hence, 21 of the respondents hold up to an A level, 49 hold bachelors, 34 hold masters, 12 of them hold PhDs, and 7 of the respondents chose the option "Other".

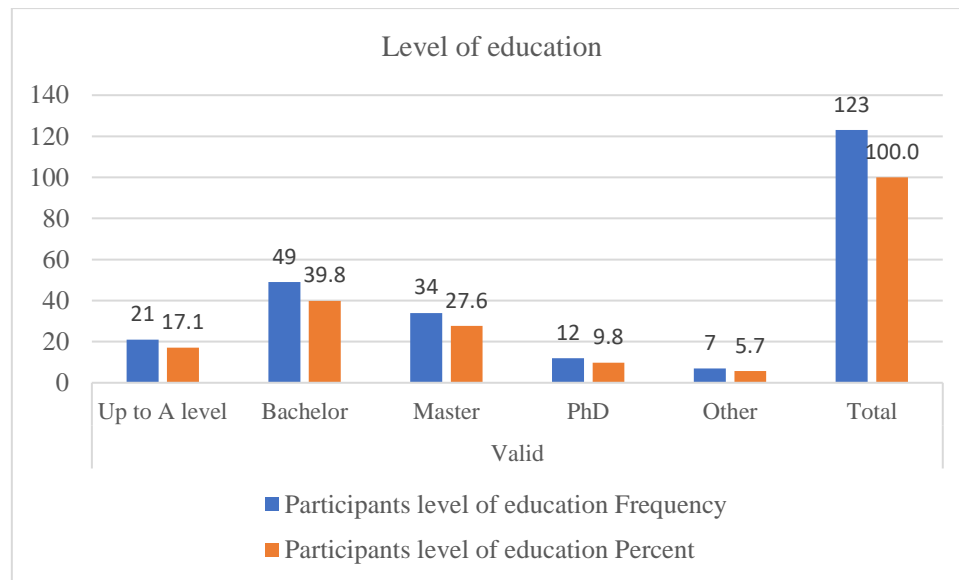


Figure 5. 5. Sample description based on education

Furthermore, table 5.3 presents the association of respondents' age and their level of education.

Table 5. 3. Respondents' level of education and their age

Participants age * Participants level of education Crosstabulation								
			Participants level of education					Total
			Up to A level	Bachelor	Master	PhD	Other	
Participants' age	20-29	Count	1	8	2	0	0	11
		% of Total	0.8%	6.5%	1.6%	0.0%	0.0%	8.9%
	30-39	Count	3	7	8	1	1	20
		% of Total	2.4%	5.7%	6.5%	0.8%	0.8%	16.3%
	40-49	Count	9	18	12	5	2	46
		% of Total	7.3%	14.6%	9.8%	4.1%	1.6%	37.4%
	50 and more	Count	8	16	12	6	4	46
		% of Total	6.5%	13.0%	9.8%	4.9%	3.3%	37.4%
Total		Count	21	49	34	12	7	123
		% of Total	17.1%	39.8%	27.6%	9.8%	5.7%	100.0%

5.2.6. Firm's age

The results show that the highest percentage belongs to the firms between 1-5 years which is 26%; 19.5% have age between 6-10, 25.2% between 11-15, 14.6% between 16-20, and 14.6% are aged 21 years or more.

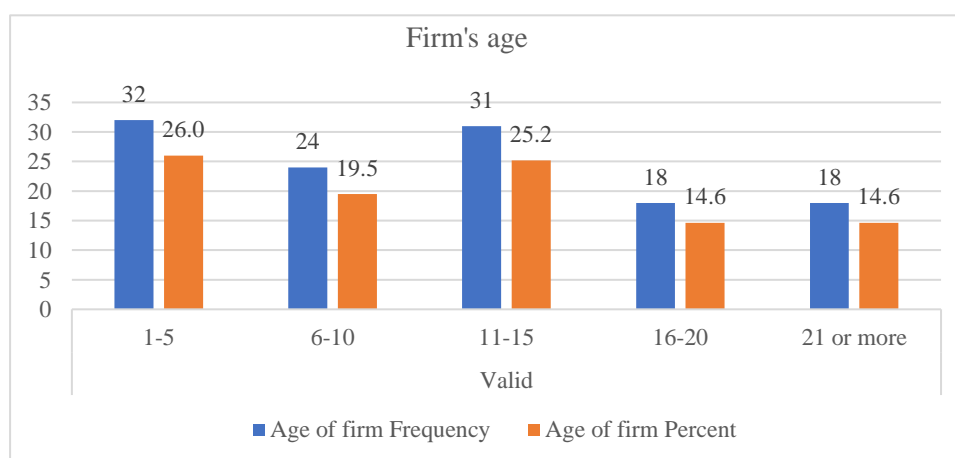


Figure 5. 6. Sample description based on firms' age

5.2.7. Firm's location

The outcomes show that most of the firms are located in England (76.4%) and Scotland with 10.6% and then Wales at 8.1% and Northern Ireland 4.9%, of the firms. Figure 5.7 illustrates the geographical distribution of the high-tech SMEs of this study.

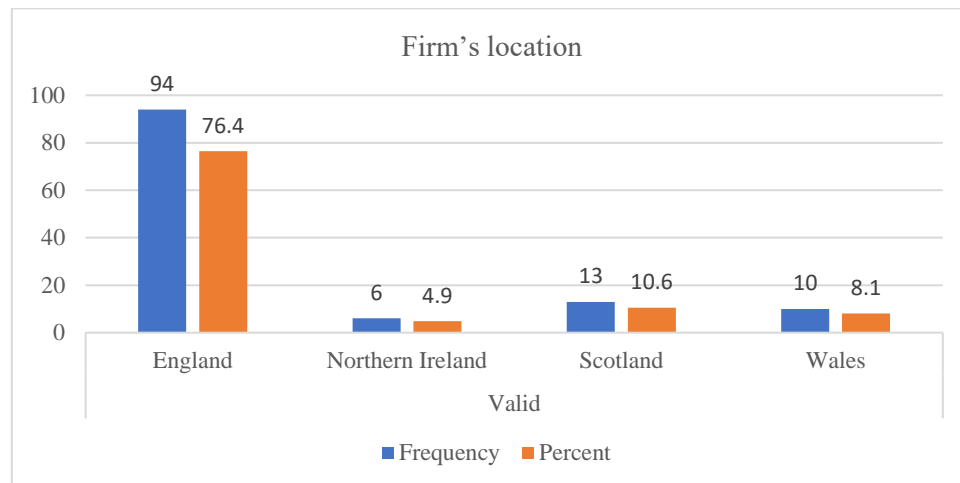


Figure 5. 7. Sample description based on firms' location

5.2.8. Number of employees in the firm

The results of the analysis showed that 68% of the sample are micro firms, 25% are small firms, and 7% are medium firms. These results are shown in figure 5.8.

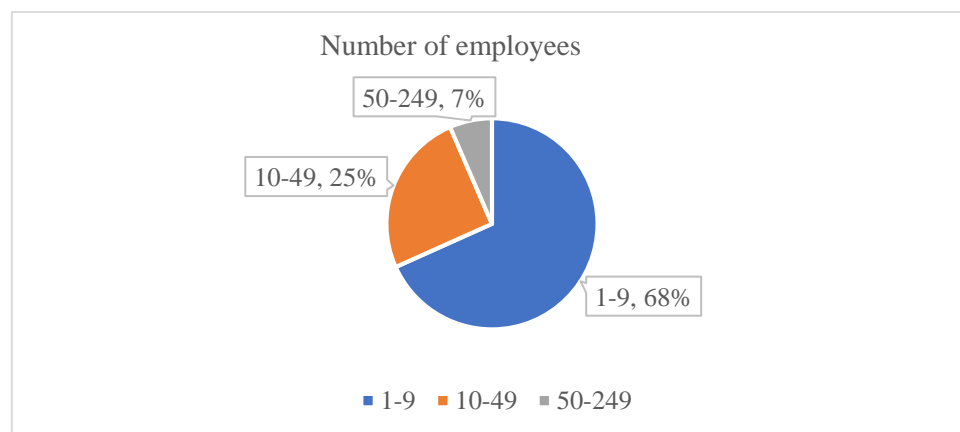


Figure 5. 8. Description of the sample based on the number of employees

According to table 5.4, 28 of the studied telecommunication activities firms are micro, 27 of information technology firms are micro, 6 of them are small and 2 of them are medium-sized

firms. Moreover, 27 of the studied information technology firms are micro, 13 of them are small, and 3 of them are medium-sized firms. In addition, for software development firms, 14 of them are micro, 9 of them are small, and 2 of them are medium-sized firms.

Table 5. 4. Firms' number of employees and their industry sector

Number of employees in firm * Industry sector Crosstabulation							
			Industry sector				Total
			Telecommunication activities	Information technology	Software development	Other	
Number of employees in firm	1-9	Count	28	27	14	15	84
		% of Total	22.8%	22.0%	11.4%	12.2 %	68.3 %
	10-49	Count	6	13	9	3	31
		% of Total	4.9%	10.6%	7.3%	2.4%	25.2 %
	50-249	Count	2	3	2	1	8
		% of Total	1.6%	2.4%	1.6%	0.8%	6.5%
Total		Count	36	43	25	19	123
		% of Total	29.3%	35.0%	20.3%	15.4 %	100%

The association of firm age and employee number. The results of the analysis demonstrate that 32 of the studied firms are categorized in the age band of 1-5 years, 31 are between 11-15 years 24 of them are aged between 6-10, and age bands of 16-20 and 21 or more include 18 firms each.

Table 5. 5. Firms' number of employees and the age of the firms

Age of firm * Number of employees in firm Crosstabulation							
			Number of employees in firm			Total	
			1-9	10-49	50-249		
Age of firm	1-5	Count	27	4	1	32	
		% of Total	22.0%	3.3%	0.8%	26.0%	
	6-10	Count	12	11	1	24	
		% of Total	9.8%	8.9%	0.8%	19.5%	
	11-15	Count	20	8	3	31	
		% of Total	16.3%	6.5%	2.4%	25.2%	
	16-20	Count	14	3	1	18	
		% of Total	11.4%	2.4%	0.8%	14.6%	
	21 or more	Count	11	5	2	18	
		% of Total	8.9%	4.1%	1.6%	14.6%	
Total		Count	84	31	8	123	
		% of Total	68.3%	25.2%	6.5%	100.0%	

5.2.9. Industry sector

This study examined the SMEs located in the UK which operate in Telecommunication Activities, Information Technology, and Software Development. The results revealed 35% of the firms are operating in Software Development, 29.3% in Telecommunication Activities, 20.3% in Software Development, and 15.4% chose the Other option. Figure 5.9 illustrates these results.

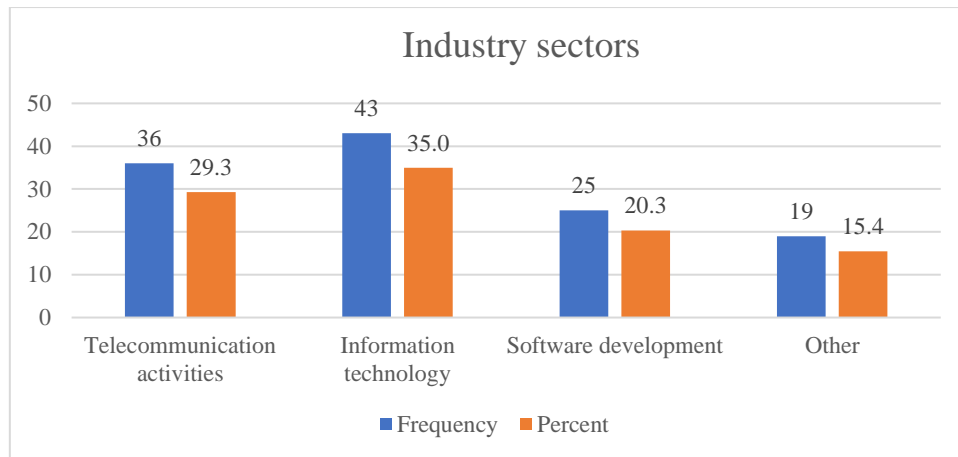


Figure 5. 9. Sample description based on the industry sector

5.2.10. Descriptive statistics of research variables

In table 5.6 of the descriptive findings of the study statistical indices such as mean, standard deviation, dispersion coefficient for variables are presented. Table 5.6 illustrates the results of SPSS analysis which are the calculated statistical indicators of the research variables such as mean, standard deviation and coefficient of variation as below.

Table 5. 6. Statistical indicators of research variables

N	Variable	Frequency percent $M \geq 3$	Mean	Median	STD.	C.V
1	Organizational foresight	62.6	3.147	3.143	.592	18.811
2	Strategic thinking	90.2	3.600	3.600	.581	16.139
3	Strategic planning	84.6	3.514	3.429	.638	18.156
4	Firm performance	87	3.670	3.700	.784	21.362

According to Table 5.6, firm performance has the highest mean (3.700) and organizational has the lowest mean (3.147) among the variables. It needs to be considered that if the mean is above the average ($= 3$), it indicates more respondents are satisfied with the status of that variable. Strategic thinking has the lowest coefficient of variation which is 16.139; this reveals a sort of consensus among the respondents' opinions. On the other hand, firm performance has the

highest coefficient of variation (21.362) which indicates the least consensus among the respondents. If skewness and kurtosis are between -3 and +3, it confirms that the variables are normal (Kline, 2011).

5.3. The research variables' descriptive analysis

In this section the data's main features are discussed through descriptive statistical analysis which considers the four main variables of the study; strategic thinking, organizational foresight, strategic planning, and firm performance. This enables the study to clarify the statistical characteristics of the study.

Table 5. 7. Dependant and independent variables' descriptive statistics

Descriptive Statistics				
	Organizational foresight	Strategic planning	Strategic thinking	Firm performance
Number of items	35	7	10	10
Mean	3.21	3.59	3.60	3.66
Std. Deviation	.59	.79	.63	.78

The presented results in table 5.7 indicate that among independent variables, strategic thinking (mean = 3.60) has a higher mean compared to organizational foresight (3.21). Besides, the means of strategic planning and firm performance means are respectively 3.59 and 3.66. Strategic thinking is measured through creative thinking, vision-driven thinking, market-oriented thinking, and systematic thinking and the total number of items to measure these are 10. Moreover, organizational foresight is measured based on strategic selection, knowledge base, environmental scanning capabilities, and integrating capabilities. In addition, strategic planning is examined through 7 items and finally, firm performance is measured through variables namely profit, sales, market share, and employment growth with a total of 10 items. It was asked from participants to demonstrate the degree to which they agree or disagree with the questionnaire's statements.

5.3.1. Strategic thinking's descriptive statistics

To examine SMEs' strategic thinking, as a dependent variable, 4 dimensions including 10 items in total were suggested. The dimensions are creative thinking (4 items), vision-driven thinking (1 item), market-oriented thinking (4 items), and systematic thinking (1 item).

5.3.1.1. Systematic thinking

Systematic thinking is measured through 1 item; in the questionnaire the participants were asked to demonstrate their firm's degree of systematic thinking based on five choices from strongly disagree to strongly agree. Table 5.7 presents frequencies (f), frequencies' percentage (%F), and the means, of the items. In tables 5.8 and 5.9 the bi-variate correlation analysis outcomes are presented, which demonstrates the correlation between creative thinking items and market-oriented thinking items.

Table 5. 8. Descriptive statistics of systematic thinking

N	Strategic thinking (Systematic thinking dimension)	Strongly disagree		Disagree		Neutral		Agree		Strongly agree		Total		Mean
		f	%F	f	%F	f	%F	f	%F	f	%F	N	%N	
1	Overall, my company's decision- making is systematic	12	9.8	15	12.2	3 2	26. 0	50	40.7	14	11.4	12 3	100	3.31

5.3.1.2. Market-oriented thinking's descriptive statistics

Market-oriented thinking is measured through 1 item; in the questionnaire the participants were asked to demonstrate their firm's degree of market-oriented thinking based on five choices from strongly disagree to strongly agree. Table 5.9 presents frequencies (f), frequencies' percentage (%F), and the means, of the items. Moreover, the table shows the descriptive analysis of market-oriented thinking as a dimension of strategic thinking, with its 4 measuring

items. Table 5.9 reveals that the mean values are higher than the average. The table indicates frequencies and frequencies percentages.

Table 5. 9. Descriptive statistics of market-oriented thinking

N	Strategic thinking (Market-oriented thinking dimension)	Strongly disagree		Disagree		Neutral		Agree		Strongly agree		Total		Mean
		f	%F	F	%F	f	%F	f	%F	f	%F	N	%N	
7	Selling oriented thinking reflects the corporate philosophy.	7	5.7	9	7.3	48	39.0	42	34.1	17	13.8	123	100	3.43
8	In my company, customer-oriented thinking reflects the corporate philosophy.	7	5.7	11	8.9	38	30.9	52	42.3	15	12.2	123	100	3.46
9	In my company customer satisfaction is perceived as a goal of corporate decisions.	7	5.7	12	9.8	34	27.6	48	39.0	22	17.9	123	100	3.53
10	Overall, my company's decision-making is market-oriented.	7	5.7	8	6.5	26	21.1	68	55.3	14	11.4	123	100	3.60

Between items of market-oriented thinking, a bi-variate analysis has been carried out which reveals significant and positive correlations among all items. Table 5.10 represents 4 questions' correlations which are based on Pearson correlation and show a positive and significant association among all items. This signifies the measurement's coherence of market-oriented thinking. Table 5.10 represents the 4 items' correlations used to measure market-oriented thinking.

Table 5. 10. Market-oriented thinking

	Q49	Q50	Q51	Q52
Q49: Selling oriented thinking reflects the corporate philosophy.	1			
Q50: In my company, customer-oriented thinking reflects the corporate philosophy.	.783**	1		
Q51: In my company, customer satisfaction is perceived as a goal of corporate decisions.	.769**	.789**	1	
Q52: Overall, my company's decision-making is market-oriented.	.786**	.823**	.779**	1

5.3.1.3. *Creative thinking's descriptive analysis*

Creative thinking is measured through 4 items; in the questionnaire the participants were asked to demonstrate their firm's degree of creative thinking based on five choices from strongly disagree to strongly agree. Table 5.11 presents frequencies (f), frequencies' percentage (%F), and the means, of the items. Moreover, the table shows the descriptive analysis of creative thinking as a dimension of strategic thinking, with its 4 measuring items.

Table 5. 11. Descriptive statistics of creative thinking

N	Strategic thinking (creative thinking dimension)	Strongly disagree		Disagree		Neutral		Agree		Strongly agree		Total		Mean
		f	%F	f	%F	f	%F	f	%F	f	%F	N	%N	
2	In my company employees have the ability to develop inventive ideas.	6	4.9	8	6.5	20	16.3	63	51.2	26	21.1	123	100	3.77
3	In my company employees have the ability to come up with original solutions.	6	4.9	5	4.1	16	13.0	64	52.0	32	26.0	123	100	3.90
4	In my company employees have possession of the necessary creativity.	5	4.1	6	4.9	28	22.8	59	48.0	25	20.3	123	100	3.75
5	Overall, my company's decision-making is creative.	6	4.9	1	.8	21	17.1	65	52.8	30	24.4	123	100	3.91

In addition, between items of creative thinking, a bi-variate analysis has been carried out which reveals significant and positive correlations among all items. Table 5.12 represents 4 questions' correlations which are based on Pearson correlation.

Table 5. 12. Correlation of creative thinking items

	Q44	Q45	Q46	Q47
Q44: In my company employees have the ability to develop inventive ideas.	1			
Q45: In my company employees have the ability to come up with original solutions.	.757**	1		
Q46: In my company employees have possession of the necessary creativity.	.560**	.655**	1	
Q47: Overall, my company's decision-making is creative.	.562**	.638**	.695**	1

5.3.1.4. Vision-driven thinking

Vision-driven thinking is measured through 1 item; in the questionnaire the participants were asked to indicate their firm's degree of vision-driven thinking based on five choices from strongly disagree to strongly agree. Table 5.13 presents frequencies (f), frequencies' percentage (%F), the means, and standard deviations of the items. Moreover, the table shows the descriptive analysis of vision-driven thinking as a dimension of strategic thinking, with its 1 measuring item.

Table 5. 13. Descriptive statistics of vision-driven thinking

N	Strategic thinking (vision-driven thinking dimension)	Strongly disagree		Disagree		Neutral		Agree		Strongly agree		Total		Mean
		f	%F	f	%F	f	%F	f	%F	f	%F	N	%N	
6	Overall, my company's decision-making is vision-driven.	10	8.1	14	11.4	38	30.9	43	35.0	18	14.6	123	100	3.36

5.3.2. Organizational foresight's descriptive statistics

To assess SMEs' organizational foresight, as a dependent variable, 4 dimensions including a total number of 35 items were used. The organizational foresight's first order dimensions are environmental scanning capabilities, strategic selection, integrating capabilities. Environmental scanning capabilities include strong tie resources (4 items), weak tie sources (5 items), time horizon (4 items), and depth of scanning (3 items). Plus, strategic selection has three dimensions, analyzing (4 items), visioning (4 items), and planning (3 items). Moreover, integrating capabilities has three dimensions, leadership (3 items), coordination (3 items), and knowledge base (2 items).

5.3.2.1. Environmental scanning capabilities

Environmental scanning capabilities of the SMEs are measured by strong tie resources (4 items), weak tie sources (5 items), time horizon (4 items), and depth of scanning (3 items).

Below the descriptive analysis results are discussed.

5.3.2.1.1. Strong tie sources

Table 5.14 portrays the descriptive analysis of strong tie sources as a dimension of environmental scanning capabilities with its 4 measuring items. Table 5.14 reveals that the mean values of items are higher than the average. The table indicates frequencies and frequencies percentages.

Table 5. 14. Descriptive analysis of strong tie sources

N	Organizational foresight (Strong tie sources dimension)	Strongly disagree		Disagree		Neutral		Agree		Strongly agree		Total		Mean
		F	%F	f	%F	f	%F	f	%F	f	%F	f	%F	
3	Employees of my company work jointly with customers to develop solutions.	5	4.1	11	8.9	15	12.2	54	43.9	38	30.9	123	100	3.88
4	Employees of my company work jointly with suppliers in order to develop a solution.	5	4.1	8	6.5	29	23.6	47	38.2	34	27.6	123	100	3.78
6	We read specialized journals and magazines to keep abreast of market and technology trends.	2	1.6	14	11.4	23	18.7	59	48.0	25	20.3	123	100	3.73
7	We conduct Internet and media research.	3	2.4	9	7.3	28	22.8	56	45.5	27	22.0	123	100	3.77

An analysis of bi-variate correlation is undertaken among the items of strong tie sources. Pearson correlation analysis results in table 5.15 show a positive and significant association among all items. This signifies the measurement coherence of strong tie sources. Table 5.15 represents the 4 items' correlation used to measure strong tie sources.

Table 5. 15. Correlation table of strong tie sources

	Q3	Q4	Q6	Q7
Q3: Employees of my company work jointly with customers to develop solutions.	1			
Q4: Employees of my company work jointly with suppliers in order to develop a solution.	.779**	1		
Q6: We read specialized journals and magazines to keep abreast of market and technology trends.	.660**	.617**	1	
Q7: We conduct Internet and media research.	.677**	.637**	.663**	1

5.3.2.1.2. Weak tie sources

Table 5.16 portrays the descriptive analysis of weak tie sources as a dimension of environmental scanning capabilities with its 5 measuring items. The table reveals that the mean values of items are higher than the average. Besides, the table indicates frequencies and frequencies percentages.

Table 5. 16. Descriptive analysis of weak tie sources

N	Organizational foresight (Weak tie sources dimension)	Strongly disagree		Disagree		Neutral		Agree		Strongly agree		Total		Mean
		f	%F	f	%F	f	%F	f	%F	f	%F	f	%F	
1	We participate in professional or industry association activities.	21	17.1	21	17.1	21	17.1	45	36.6	15	12.2	123	100	3.09
2	We attend scientific conferences.	31	25.2	19	15.4	29	23.6	33	26.8	11	8.9	123	100	2.78
5	We collect information on patents.	24	19.5	21	17.1	25	20.3	33	26.8	20	16.3	123	100	3.03
8	We survey experts on their opinions, for example by using questionnaires, panels, focus groups, workshops, interviews, one to one meetings.	22	17.9	24	19.5	22	17.9	36	29.3	19	15.4	123	100	3.04
9	We have an active network of contacts with the scientific community.	23	18.7	22	17.9	26	21.1	37	30.1	15	12.2	123	100	2.99

An analysis of bi-variate correlation is undertaken among the items of strong tie sources. Pearson correlation analysis results in table 5.17 show a positive and significant association among all items. This signifies the measurement coherence of strong tie sources. Table 5.17 represents the 4 items' correlations used to measure strong tie sources.

Table 5. 17. Correlation table of weak tie sources

	Q1	Q2	Q5	Q8	Q9
Q1: We participate in professional or industry association activities.	1				
Q2: We attend scientific conferences.	.810**	1			
Q5: We collect information on patents.	.345**	.405**	1		
Q8: We survey experts on their opinions, for example by using questionnaires, panels, focus groups, workshops, interviews, one to one meetings.	.756**	.736**	.418**	1	
Q9: We have an active network of contacts with the scientific community.	.787**	.789**	.372**	.778**	1

5.3.2.1.3. Time horizon

Table 5.18 portrays the descriptive analysis of time horizon as a dimension of environmental scanning capabilities with its 4 measuring items. The table reveals that the mean values of items are higher than the average. The table indicates frequencies and frequencies percentages.

Table 5. 18. Descriptive analysis of time horizon

N	Organizational foresight (Weak tie sources dimension)	Strongly disagree		Disagree		Neutral		Agree		Strongly agree		Total		Mean
		f	%F	f	%F	f	%F	f	%F	f	%F	f	%F	
10	The future conditions that we consider when planning are less than 2 years in the future.	5	4.1	25	20.3	30	24.4	48	39.0	15	12.2	123	100	3.34
11	The future conditions that we consider when planning, are from 2 to 5 years in the future.	14	11.4	30	24.4	27	22.0	37	30.1	15	12.2	123	100	3.07
12	The future conditions that we consider when planning are more than 5 years in the future.	34	27.6	42	34.1	24	19.5	17	13.8	6	4.9	123	100	2.34
13	The future conditions that we consider when planning are at least 15 years in the future.	54	43.9	33	26.8	18	14.6	12	9.8	6	4.9	123	100	2.04

An analysis of bi-variate correlation is undertaken among the items of time horizon. Pearson correlation analysis results in table 5.19 show a negative correlation among Q10 and Q11. Moreover, Q12 and Q10 have negative correlation. Hence these items are excluded from further analyses.

Table 5. 19. Correlation table of time horizon

	Q10	Q11	Q12	Q13
Q10: The future conditions that we consider when planning are less than 2 years in the future.	1			
Q11: The future conditions that we consider when planning are from 2 to 5 years in the future.	-.014	1		
Q12: The future conditions that we consider when planning are more than 5 years in the future.	-.024	.523**	1	
Q13: The future conditions that we consider when planning are at least 15 years in the future	.083	.340**	.619**	1

5.3.2.1.4. Depth of scanning

Table 5.20 shows the descriptive analysis of depth of scanning as a dimension of environmental scanning capabilities with its 3 measuring items. The table reveals that the mean values of items are higher than the average. The table indicates frequencies and frequencies percentages.

Table 5. 20. Descriptive analysis of depth of scanning

N	Organizational foresight (Depth of scanning dimension)	Strongly disagree		Disagree		Neutral		Agree		Strongly agree		Total		Mean
		f	%F	f	%F	f	%F	f	%F	f	%F	f	%F	
14	We are scanning business environments in all areas (technological, political, competitor, customer and socio-cultural environment).	16	13.0	11	8.9	34	27.6	43	35.0	19	15.4	123	100	3.30
15	We scan for long-term developments in the markets and industries that we are not currently involved in.	14	11.4	17	13.8	27	22.0	47	38.2	18	14.6	123	100	3.30
16	We also consider new issues, trends, and technologies whose relevance to our business cannot yet be assessed.	14	11.4	11	8.9	31	25.2	53	43.1	14	11.4	123	100	3.34

An analysis of bi-variate correlation is undertaken among the items of depth of scanning. Pearson correlation analysis results in table 5.21 show a positive and significant association among all items. This signifies the measurement coherence of depth of scanning. Table 5.21 represents the 3 items' correlation used to measure depth of scanning.

Table 5. 21. Correlation table of depth of scanning

	Q14	Q15	Q16
Q14: We are scanning business environments in all areas (technological, political, competitor, customer and socio-cultural environment).	1		
Q15: We scan for long-term developments in the markets and industries that we are not currently involved in.	.735**	1	
Q16: We also consider new issues, trends, and technologies whose relevance to our business cannot yet be assessed.	.734**	.861**	1

5.3.2.2. Strategic selection

Strategic selection of the SMEs is measured by analyzing (4 items), visioning (4 items), and planning (3 items). Below the descriptive analysis results are discussed.

5.3.2.2.1. Analysing

Table 5.22 shows the descriptive analysis of analyzing as a dimension of strategic selection with its 4 measuring items. The table reveals that the mean values of items are higher than the average. The table indicates frequencies and frequencies percentages.

Table 5. 22. Descriptive analysis of analysing

N	Strategic selection (Analysing dimension)	Strongly disagree		Disagree		Neutral		Agree		Strongly agree		Total		Mean
		f	%F	f	%F	f	%F	f	%F	f	%F	f	%F	
17	In our company, we analyse the potential future conditions for business.	19	15.4	23	18.7	31	25.5	40	32.5	10	8.1	123	100	2.99
18	We forecast potential future conditions.	19	15.4	23	18.7	28	22.8	41	33.3	12	9.8	123	100	3.03
19	We use modelling for analysing future conditions (e.g. econometric modelling, simulation or systems models/systems analysis).	27	22.0	27	22.0	28	22.8	27	22.0	14	11.4	123	100	2.78
20	We use scenarios to describe and/or analyse potential futures.	23	18.7	23	18.7	27	22.0	37	30.1	13	10.6	123	100	2.95

An analysis of bi-variate correlation is undertaken among the items of analyzing. Pearson correlation analysis results in table 5.23 show a positive and significant association among all items. This indicates the measurement coherence of analyzing. Table 5.23 illustrates the 4 items' correlation used to measure analyzing.

Table 5. 23. Correlation table of analysing dimension

	Q17	Q18	Q19	Q20
Q17: In our company, we analyze the potential future conditions for business.	1			
Q18: We forecast potential future conditions.	.856**	1		
Q19: We use modeling for analyzing future conditions (e.g. econometric modeling, simulation or systems models/systems analysis).	.789**	.775**	1	
Q20: We use scenarios to describe and/or analyze potential futures.	.796**	.758**	.806**	1

5.3.2.2.2. *Visioning*

Table 5.24 shows the descriptive analysis of visioning as a dimension of strategic selection with its 4 measuring items. The table reveals that the mean values of items are higher than the average. The table indicates frequencies and frequencies percentages.

Table 5. 24. Descriptive analysis of visioning

N	Strategic selection (Visioning dimension)	Strongly disagree		Disagree		Neutral		Agree		Strongly agree		Total		Mean
		f	%F	f	%F	f	%F	f	%F	f	%F	f	%F	
21	We have a systematic vision development process.	11	8.9	19	15.4	35	28.5	40	32.5	18	14.6	123	100	3.28
22	We apply visioning methods, for example, balanced scorecards, appreciative inquiry, road-mapping.	12	9.8	21	17.1	37	30.1	34	27.6	19	15.4	123	100	3.21
23	Our company sets long-term objectives that are consistent with its vision and values.	11	8.9	22	17.9	38	30.9	37	30.1	15	12.2	123	100	3.18
24	There is total agreement on our organizational vision across all levels, functions, and divisions.	11	8.9	21	17.1	41	33.3	34	27.6	16	13.0	123	100	3.18

An analysis of bi-variate correlation is undertaken among the items of visioning. Pearson correlation analysis results in table 5.25 show a positive and significant association among all items. This reveals the measurement coherence of visioning. Table 5.25 illustrates the 4 items' correlation used to measure visioning.

Table 5. 25. Correlation table of visioning

	Q21	Q22	Q23	Q24
Q21: We have a systematic vision development process.	1			
Q22: We apply visioning methods, for example, balanced scorecards, appreciative inquiry, road-mapping.	.753**	1		
Q23: Our company sets long-term objectives that are consistent with its vision and values.	.596**	.627**	1	
Q24: There is total agreement on our organizational vision across all levels, functions, and divisions.	.522**	.476**	.635**	1

5.3.2.2.3. Planning

Table 5.26 shows the descriptive analysis of planning as a dimension of strategic selection with its 3 measuring items. The table reveals that the mean values of items are higher than the average. The table indicates frequencies and frequencies percentages.

Table 5. 26. Descriptive statistics of planning

N	Strategic selection (Planning dimension)	Strongly disagree		Disagree		Neutral		Agree		Strongly agree		Total		Mean
		f	%F	F	%F	f	%F	f	%F	f	%F	f	%F	
25	Our company develops activity plans that optimize progress toward its organizational strategy.	11	8.9	26	21.1	25	20.3	47	38.2	14	11.4	123	100	3.21
26	We explore a variety of potential options to achieve long-term objectives.	14	11.4	17	13.8	37	30.1	42	34.1	13	10.6	123	100	3.18
27	Our company applies a rigorous measurement of business performance against goals and objectives.	10	8.1	25	20.3	30	24.4	40	32.5	18	14.6	123	100	3.25

An analysis of bi-variate correlation is undertaken among the items of planning. Pearson correlation analysis results presented in table 5.27 demonstrate a positive and significant association among all items. This reveals the measurement coherence of planning. Table 5.27 illustrates the 3 items' correlation used to measure planning.

Table 5. 27. Correlation table of planning

	Q25	Q26	Q27
Q25: Our company develops activity plans that optimize progress toward its organizational strategy.	1		
Q26: We explore a variety of potential options to achieve long-term objectives.	.752**	1	
Q27: Our company applies a rigorous measurement of business performance against goals and objectives.	.929**	.706**	1

5.3.2.3. Integrating capabilities

Integrating capabilities of the SMEs is measured by Leadership (3 items), Coordination (3 items), and Knowledge base (2 items). Below the descriptive analysis results are discussed.

5.3.2.3.1. Leadership

Table 5.28 shows the descriptive analysis of leadership, as a dimension of integrating capabilities, with its 3 measuring items. The table reveals that the mean values of items are higher than the average. The table indicates frequencies and frequencies percentages.

Table 5. 28. Descriptive statistics of leadership

N	Integrating capabilities (Leadership dimension)	Strongly disagree		Disagree		Neutral		Agree		Strongly agree		Total		Mean
		f	%F	f	%F	f	%F	f	%F	f	%F	f	%F	
28	Basic assumptions on the future of the company are explicit, much talked about and frequently challenged by the top management.	11	8.9	26	21.1	23	18.7	48	39.0	15	12.2	123	100	3.24
29	There are regular incentives (recognition by senior management and/or financial rewards) for wider vision.	13	10.6	23	18.7	30	24.4	44	35.8	13	10.6	123	100	3.17
30	Bringing external information into the company and maintaining an external network is encouraged by top management.	13	10.6	22	17.9	31	25.2	41	33.3	16	13.0	123	100	3.20

An analysis of bi-variate correlation is undertaken among the items of leadership. Pearson correlation analysis results presented in table 5.29 demonstrate a positive and significant association among all items. This reveals the measurement coherence of leadership. Table 5.29 illustrates the 3 items' correlation used to measure leadership.

Table 5. 29. Correlation table of leadership

	Q28	Q29	Q30
Q28: Basic assumptions on the future of the company are explicit, much talked about and frequently challenged by the top management.	1		
Q29: There are regular incentives (recognition by senior management and/or financial rewards) for wider vision.	.928**	1	
Q30: Bringing external information into the company and maintaining an external network is encouraged by top management.	.905**	.866**	1

5.3.2.3.2. Coordination

Table 5.30 shows the descriptive analysis of coordination, as a dimension of integrating capabilities, with its 3 measuring items. The table reveals that the mean values of items are higher than the average. The table indicates frequencies and frequencies percentages.

Table 5. 30. The descriptive analysis of coordination

N	Integrating capabilities (Coordination dimension)	Strongly disagree		Disagree		Neutral		Agree		Strongly agree		Total		Mean
		f	%F	f	%F	f	%F	f	%F	f	%F	f	%F	
31	Every employee is expected to build and maintain formal and informal networks to other units in the organization.	9	7.3	8	6.5	37	30.1	47	38.2	22	17.9	123	100	3.52
32	In our company, information is shared freely across functions and hierarchical levels.	10	8.1	5	4.1	34	27.6	50	40.7	24	19.5	123	100	3.59
33	The activities of the different departments are well coordinated.	9	7.3	8	6.5	35	28.5	45	36.6	26	21.1	123	100	3.57

An analysis of bi-variate correlation is undertaken among the items of coordination. Pearson correlation analysis results presented in table 5.31 demonstrate a positive and significant

association among all items. This reveals the measurement coherence of coordination. Table 5.31 illustrates the 3 items' correlation used to measure coordination.

Table 5. 31. Correlation table of Coordination

	Q31	Q32	Q33
Q31: Every employee is expected to build and maintain formal and informal networks to other units in the organization.	1		
Q32: In our company, information is shared freely across functions and hierarchical levels.	.872**	1	
Q33: The activities of the different departments are well coordinated.	.920**	.927**	1

5.3.2.3.3. Knowledge base

Table 5.32 shows the descriptive analysis of knowledge base, as a dimension of integrating capabilities, with its 2 measuring items. The table reveals that the mean values of items are higher than the average. The table indicates frequencies and frequencies percentages.

Table 5. 32. Descriptive statistics of knowledge base

N	Integrating capabilities (Knowledge base dimension)	Strongly disagree		Disagree		Neutral		Agree		Strongly agree		Total		Mean
		f	%F	f	%F	f	%F	f	%F	f	%F	f	%F	
34	Our average annual R&D expenditures with respect to sales are one of highest in the industry.	13	10.6	10	8.1	27	22.0	49	39.8	24	19.5	123	100	3.49
35	Continued organizational learning is encouraged and there is time/opportunity to improve skills and capabilities.	13	10.6	8	6.5	28	22.8	48	39.0	26	21.1	123	100	3.53

An analysis of bi-variate correlation is undertaken among the items of knowledge base. Pearson correlation analysis results presented in table 5.33 demonstrate a positive and significant

association among all items. This reveals the measurement coherence of knowledge base. Table 5.33 illustrates the 3 items' correlation used to measure knowledge base.

Table 5. 33. Correlation of knowledge base items

	Q34	Q35
Q34 Our average annual R&D expenditures with respect to sales are one of highest in the industry.	1	
Q35 Continued organizational learning is encouraged and there is time/opportunity to improve skills and capabilities.	.885**	1

5.3.3. *Strategic planning's descriptive statistics*

In this study in order to measure strategic planning, 7 items are used. In the questionnaire respondents were asked to clarify the degree to which they agree or disagree with the application of the items in their firms. Table 5.34 represents the descriptive analysis of the 7 items which includes frequencies and frequencies' percentages of the questionnaire items.

Table 5. 34. Descriptive analysis of strategic planning items

N	Strategic planning	Strongly disagree		Disagree		Neutral		Agree		Strongly agree		Total		Mean
		f	%F	f	%F	f	%F	f	%F	f	%F	f	%F	
1	In our firm, we put emphasis on the mission statement.	7	5.7	16	13.0	26	21.1	51	41.5	23	18.7	123	100	3.54
2	In our firm, we put emphasis on trend analysis.	7	5.7	15	12.2	38	30.9	43	35.0	20	16.3	123	100	3.43
3	In our firm, we put emphasis on competitor analysis.	3	2.4	17	13.8	27	22.0	59	48.0	17	13.8	123	100	3.56
4	In our firm, we put emphasis on long-term goals.	5	4.1	12	9.8	31	25.2	58	47.2	17	13.8	123	100	3.56
5	In our firm, we put emphasis on annual goals.	4	3.3	11	8.9	35	28.5	47	38.2	26	21.1	123	100	3.65
6	In our firm, we put emphasis on ongoing evaluation.	4	3.3	12	9.8	32	26.0	59	48.0	16	13.0	123	100	3.57
7	In our firm, we put emphasis on short-term action plans.	4	3.3	7	5.7	25	20.3	63	51.2	24	19.5	123	100	3.78

An analysis of bi-variate correlation is undertaken among the items of strategic planning.

Pearson correlation analysis results presented in table 5.35 demonstrates a positive and significant association among all items. This reveals the measurement coherence of strategic planning. Table 5.35 illustrates the 7 items' correlation used to measure strategic planning.

Table 5. 35. Correlation of strategic planning items

	Q36	Q37	Q38	Q39	Q40	Q41	Q42
Q36: In our firm, we put emphasis on the mission statement.	1						
Q37: In our firm, we put emphasis on trend analysis.	.776**	1					
Q38: In our firm, we put emphasis on competitor analysis.	.649**	.733**	1				
Q39: In our firm, we put emphasis on long-term goals.	.756**	.742**	.812**	1			
Q40: In our firm, we put emphasis on annual goals.	.584**	.612**	.632**	.692**	1		
Q41: In our firm, we put emphasis on ongoing evaluation.	.422**	.534**	.386**	.400**	.347**	1	
Q42: In our firm, we put emphasis on short-term action plans.	.415**	.412**	.362**	.403**	.323**	.567**	1

5.3.4. Firm performance's descriptive statistics

In this research in order to measure SME performance, 4 dimensions are used which are profit (3 items), sales (3 items), market share (3 items), and employment growth (1 item). In the questionnaire, respondents were asked to declare the degree to which they agree or disagree with the items.

5.3.4.1. Profit

Table 5.36 shows the descriptive analysis of profit, as a dimension of firm performance, with its 3 measuring items. The table reveals that the mean values of items are higher than the average. The table indicates frequencies and frequencies percentages.

Table 5. 36. Descriptive statistics of profit

N	Firm performance (Profit dimension)	Strongly disagree		Disagree		Neutral		Agree		Strongly agree		Total		Mean
		f	%F	f	%F	f	%F	f	%F	f	%F	f	%F	
1	My company was successful from an overall profitability standpoint during the past 5 years.	3	2.4	7	5.7	16	13.0	61	49.6	36	29.3	123	100	3.97
2	Relative to competing firms, my company was successful in terms of profits during the past 5 years.	4	3.3	9	7.3	28	22.8	54	43.9	28	22.8	123	100	3.75
3	Relative to my firm's objectives, my company was successful in terms of profits during the past 5 years.	4	3.3	11	8.9	19	15.4	58	47.2	31	25.2	123	100	3.82

An analysis of bi-variate correlation is undertaken among the items of profit. Pearson correlation analysis results presented in table 5.37 demonstrate a positive and significant association among all items. This reveals the measurement coherence of profit. Table 5.37 illustrates the 3 items' correlation used to measure profit.

Table 5. 37. Correlation of profit items

	Q53	Q54	Q55
Q53 My company was successful from an overall profitability standpoint during the past 5 years.	1		
Q54 Relative to competing firms, my company was successful in terms of profits during the past 5 years.	.689**	1	
Q55 Relative to my firm's objectives, my company was successful in terms of profits during the past 5 years.	.460**	.459**	1

5.3.4.2. Sales

Table 5.38 shows the descriptive analysis of sales, as a dimension of firm performance, with its 3 measuring items. The table reveals that the mean values of items are higher than the average. The table indicates frequencies and frequencies percentages.

Table 5. 38. The descriptive statistics of sales

N	Firm performance (Sales dimension)	Strongly disagree		Disagree		Neutral		Agree		Strongly agree		Total		Mean
		F	%F	f	%F	f	%F	f	%F	f	%F	f	%F	
4	My company was successful from an overall sales standpoint during the past 5 years.	4	3.3	9	7.3	18	14.6	60	48.8	32	26.0	123	100	3.86
5	Relative to competing firms, my company was successful in terms of sales during the past 5 years.	5	4.1	10	8.1	22	17.9	59	48.0	27	22.0	123	100	3.75
6	Relative to my company's objectives, my company was successful in terms of sales during the past 5 years.	6	4.9	9	7.3	23	18.7	51	41.5	34	27.6	123	100	3.79

An analysis of bi-variate correlation is undertaken among the items of sales. Pearson correlation analysis results presented in table 5.39 demonstrate a positive and significant association among all items. This reveals the measurement coherence of sales. Table 5.39 illustrates the 3 items' correlation used to measure sales.

Table 5. 39. Correlation of sales items

	Q56	Q57	Q58
Q56: My company was successful from an overall sales standpoint during the past 5 years.	1		
Q57: Relative to competing firms, my company was successful in terms of sales during the past 5 years.	.877**	1	
Q58: Relative to my company's objectives, my company was successful in terms of sales during the past 5 years.	.826**	.857**	1

5.3.4.3. Market share

Table 5.40 shows the descriptive analysis of market share, as a dimension of firm performance, with its 3 measuring items. The table reveals that the mean values of items are higher than the average. The table indicates frequencies and frequencies percentages.

Table 5. 40. Descriptive statistics of market share

N	Firm performance (Market share dimension)	Strongly disagree		Disagree		Neutral		Agree		Strongly agree		Total		Mean
		f	%F	f	%F	f	%F	f	%F	f	%F	f	%F	
7	My company was successful from an overall market-share standpoint during the past 5 years.	5	4.1	14	11.4	30	24.4	49	39.8	25	20.3	123	100	3.60
8	Relative to competing firms, my company was successful in terms of market share during the past 5 years.	6	4.9	16	13.0	36	29.3	42	34.1	23	18.7	123	100	3.48
9	Relative to my company's objectives my company was successful in terms of market share during the past 5 years.	5	4.1	15	12.2	29	23.6	49	39.8	25	20.3	123	100	3.60

An analysis of bi-variate correlation is undertaken among the items of market share. Pearson correlation analysis results presented in table 5.41 demonstrate a positive and significant association among all items. This reveals the measurement coherence of market share. Table 5.41 illustrates the 3 items' correlation used to measure market share.

Table 5. 41. Correlation of market share items

	Q59	Q60	Q61
Q59: My company was successful from an overall market-share standpoint during the past 5 years.	1		
Q60: Relative to competing firms, my company was successful in terms of market share during the past 5 years.	.805**	1	
Q61: Relative to my company's objectives my company was successful in terms of market share during the past 5 years.	.816**	.830**	1

5.3.4.4. Employment growth

Table 5.42 shows the descriptive analysis of employment growth, as a dimension of firm performance, with its 1 measuring item. The table reveals that the mean values of items are higher than the average. The table indicates frequencies and frequencies percentages

Table 5. 42. The descriptive statistics of profit employment growth

N	Firm performance (Employment growth dimension)	Strongly disagree		Disagree		Neutral		Agree		Strongly agree		Total		Mean
		f	%F	f	%F	f	%F	f	%F	f	%F	f	%F	
10	My company has been grown in terms of the number of employees during the past 5 years.	23	18.7	27	22.0	20	16.3	30	24.4	23	18.7	123	100	3.02

5.4. Inferential statistics

Calculation of the correlation between the main variables of research has been analyzed. The Pearson correlation test was used to calculate the correlation between research variables. The correlation coefficient shows the strength of the correlation as well as the type of correlation (positive or negative). This coefficient is between 1 and -1. It is equal to zero in the absence of a correlation between the two variables. This test examines the relationship between the two variables based on the following assumptions.

(H₀): There is no significant correlation between the two variables.

$$H_0: \rho = 0$$

(H₁): There is a significant correlation between the two variables.

$$H_1: \rho \neq 0$$

The way to judge the existence or non-existence of a correlation is based on the level of significance achieved. So, if the significance test is smaller than 0.05, then the assumption H₀ is rejected and there is a significant correlation between the two variables. The results of the correlation test are presented in Table 5.43.

Table 5. 43. Correlation test between research variables

	Organizational foresight	Strategic planning	Strategic thinking	Firm performance
Organizational foresight	1			
Strategic planning	.546**	1		
Strategic thinking	.470**	.453**	1	
Firm performance	.487**	.481**	.517**	1

** : Correlation is significant at 99% level

According to Table 5.43, there is a positive and significant correlation between all variables at a confidence level of 99%. It should be noted that the correlation between organizational foresight and strategic planning is ($r = 0.54, p < 0.05$) which is highly positive and significant. In addition, the correlation between organizational foresight and firm performance is ($r = 0.48, p < 0.05$) which is positive and significant. Moreover, the correlation between organizational foresight and strategic thinking is ($r = 0.47, p < 0.05$) which is positive and significant.

The correlation between strategic thinking and firm performance is ($r = 0.51, p < 0.05$) which is positive and significant. Furthermore, the correlation between strategic planning and firm performance is ($r = 0.48, p < 0.05$) which is positive and significant. The correlation between strategic planning and strategic thinking is ($r = 0.45, p < 0.05$) which is positive and significant. All the positive correlations and their levels of significance facilitate the next stage of SEM analysis.

5.5. Research model test

Structural Equation Modelling (SEM) models measure both formative and reflective measurements. Reflective indices are the one-way arrows that are drawn from the constructions to their own positions; in contrast, the combined indices are assumed to be the cause of the hidden variables. These indicators are shown as arrows that are mapped from the observed variables to the constructed constructs.

To test the conceptual model, SEM was used with Amos version 24 software. The SEM advantage over regression is that it can estimate all existing relationships in the model. Analysis of Moment Structures (AMOS) analyses mean and covariance structures (Byrne, 2001). AMOS Basics and AMOS Graphics are two views to model specification. AMOS Graphics deals directly with path diagram while AMOS Basics deals directly with equation statements.

According to Byrne (2001), the researcher who prefers to work with a graphical or more conventional interface of programming chooses between the two approaches. AMOS offers various estimation methods such as bootstrapping and goodness of fit reporting (Ullman, 2007). However, AMOS is not capable of dealing with categorical data (Arbuckle, 2006; Ullman, 2007). AMOS offers a beneficial tool, by movement of the cursor on output, an explanation pops up on the screen which describes the output element (Ullman, 2007). AMOS is the SPSS's part which enhances the integrity of SPSS's data input file and the analysis of the SEM in AMOS. In further sections, the results of SPSS and AMOS analysis are discussed.

5.6. AMOS application for current research

The current study applies AMOS 24 for two major reasons. Initially, AMOS 24 and SPSS are associated. This enhances the application of it since the university which the researcher works at offers it along with SPSS freely. Moreover, the linkage between SPSS and AMOS simplifies the analysis of the SPSS's raw data file and SEM analysis of the AMOS. Secondly, some studies introduce AMOS as user-friendly software which is helpful for researchers who are not experienced in SEM (Kline, 1998; Ullman, 2007). Particularly, the AMOS Graphics is easy to practice without the necessity of complex equations. Moreover, the AMOS's extensive bootstrapping features (Ullman, 2007) are particularly useful for this study.

5.7. Data measurement model

5.7.1. *Validity criteria of the research model*

Biedenbach and Müller, (2011) believed that the aim of validity analysis is to measure whether the measurement degree coincides with the research objectives. For validity measurement, factor analysis is applicable. This study applies KMO's test and Bartlett's sphericity test as a criterion of Sampling Adequacy.

Biedenbach and Müller (2011) believe that if Bartlett significance test value is (<0.05) and the result of KMO test is (>0.5) then factor analysis can be applied. Table 5.44 shows the values accordingly.

Table 5. 44. KMO and Bartlett's Test

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.795
Bartlett's Test of Sphericity	Approx. Chi-Square	181.406
	Df	6
	Sig.	.000

In this research, the values of the significance of the Bartlett test are ($0.000 < 0.05$) and Kaiser–Meyer– Olkin ($KMO=0.795 > 0.5$). According to Lee et. al., (2015) the KMO indices which are greater than 0.9 are perceived as superb, between 0.8 and 0.9 are great, between 0.7 and 0.8 are good and between 0.5 and 0.7 are considered mediocre. As the results show, the correlation of the analysis is good, and the factor analysis is feasible.

Structural Equations Models (SEM) have been used by this study to evaluate the association among variables. Initially, by measuring the central tendency and dispersion the data was analyzed. Table 5.45 represents the outcomes of factor analysis; the variables with factor loading greater than 0.5 are acceptable ($FL > 0.5$). Afterward, multi-items scale validity and reliability were tested. Nunnally (1978) argues that Cronbach’s alpha represents data reliability with a threshold greater than 0.7. Subsequently, each item was tested by principle component analysis. Some of the items were excluded due to their inferior indicator loading. Average Variance Extract (AVE) was evaluated to test Convergent Validity. The items with greater than 0.5 AVE were accepted.

Table 5. 45. Factor analysis results

Variable		Items	Composite reliability	Factor loading	R ²	AVE
Strategic thinking		Q44	0.950	.82	.673	.708
		Q45		.92	.840	
		Q46		.71	.498	
		Q47		.70	.494	
		Q49		.88	.766	
		Q50		.91	.830	
		Q51		.86	.746	
		Q52		.90	.810	
Organizational Foresight	Environmental scanning capabilities	Q3	.960	.89	.797	.657
		Q4		.86	.732	
		Q6		.75	.566	
		Q7		.77	.597	
		Q1		.90	.819	
		Q2		.90	.813	
		Q9		.87	.753	
		Q14		.79	.627	
		Q15		.94	.876	
		Q16		.92	.846	
	Strategic selection	Q17	.956	.93	.872	.691
		Q18		.92	.844	
		Q19		.84	.709	
		Q21		.87	.755	
		Q22		.87	.759	
		Q23		.70	.485	
		Q24		.57	.327	
		Q25		.86	.999	
		Q26		.75	.566	
		Q27		.93	.864	

	Integrating capabilities	Q29		.96	.920	
		Q30		.90	.815	
		Q31		.93	.867	
		Q32	.772	.94	.880	.889
		Q33		.99	.976	
		Q34		.95	.906	
		Q35		.93	.864	
Strategic planning		Q36		.78	.615	
		Q37		.82	.667	
		Q38	.918	.88	.768	.692
		Q39		.92	.851	
		Q40		.75	.562	
Firm performance		Q53		.91	.828	
		Q54		.87	.764	
		Q59	.955	.89	.796	.810
		Q60		.94	.881	
		Q61		.89	.789	
Factor loading above 0.5 is significant; composite reliability above 0.7 is satisfactory; Average Variance extract (AVE) above 0.50 is satisfactory.						

According to Joreskog and Sorbom (1996) in the design and development of survey tools, it is vital to apply suitable constructs when the researcher studies management science. As a consequence of the complexity of developing a scale of measurement, the scholars need to pre-test previous empirical studies' constructs to assure the validity and reliability of their study. Hence, confirmatory factor analysis (CFA) is applicable as a reliable tool to evaluate if the data fit the measurement model (Kline, 2010). As the indicators which evaluate the model fit are numerous, Kline (2010) asserted indicators such as GFI, AGFI, RMSEA, and Chi-squared as absolute fit indicators. Table 5.46 represents the outcome of CFA in which all of them have acceptable validity and reliability.

This study aims to evaluate the relationship between strategic thinking, organizational foresight and firm performance plus the effect of strategic planning as a mediator variable on the relationship between strategic thinking and organizational foresight and firm performance. Structure equation modeling (SEM) has been applied to test the research hypotheses. To test the relationship between variables of the study's model the AMOS 24 software was used. A multi-order research model is presented in this research. Organizational foresight was illustrated as a multidimensional variable due to the literature and its nature. In order to analyze the data, organizational foresight was presented by its main variables which are environmental scanning capabilities, strategic selection and integrating capabilities.

The structural model includes 6 latent variables which are strategic thinking, environmental scanning capabilities, strategic selection, integrating capabilities, strategic planning, and firm performance. To measure these variables another order of variables was designed, namely; Strong tie sources, Weak tie sources, Time horizon, Depth of scanning, Analyzing, Visioning, Planning, Leadership, Coordination, Knowledge base, Vision-driven thinking, Creative thinking, Systematic thinking, Market-oriented thinking, Mission statement, Trend analysis, Competitor analysis, Long-term goals, Annual goals, Ongoing evaluation, Short-term action plans, Profit, Sales, Market share, Employment growth (number of employees).

5.7.2. Measurement model reliability test

The fitting test of the measurement section involves evaluating the reliability and validity of the constructs and research tools. To assess construct reliability, Fornell and Locker (1981) suggested three criteria, which include each item's reliability, each construct's composite reliability, and Cronbach's alpha.

In terms of the reliability of each of the items, a factor load of 0.7 and above shows that the construct is well established. The coefficient CR is used to check the composite reliability of

each construct. Acceptable CR values should be 0.7 or greater. The Cronbach's alpha value is greater than 0.7 and shows acceptable reliability (Fornell & Larcker, 1981). Regarding factor load, Table 5.45 confirms the reliability of each item. In addition, Cronbach's alpha, composite reliability, and communality have been shown.

5.7.2.1. Cronbach's Alpha:

In accordance with the data analysis algorithm, after calculating the factor loads of the questions, composite reliability, Cronbach's alpha and communality were calculated, and the results presented in Table 5.46. According to Table 5.50, the Cronbach's alpha for all variables is greater than 0.7 and is acceptable. Also, all variables have acceptable composite reliability (greater than 0.7). Table 5.46 shows the composite Cronbach's alpha of variables. As can be seen, the Cronbach's alpha of all variables is greater than 0.7, which confirms the overall robustness of the research model.

Table 5. 46. Reliability of the research model variables

Variables		Cronbach's Alpha
Organizational foresight	Environmental scanning capabilities	.960
	Strategic selection	.956
	Integrating capabilities	.772
Strategic planning		.918
Strategic thinking		0.950
Firm performance		.955

5.7.2.2. Criteria of validity evaluation

At the first stage, the questionnaire was distributed among scholars and experts to be evaluated and after necessary amendments related to their comments, all the questions were approved by them.

5.7.2.2.1. Convergent validity

Two significant indicators represent correlation between measurements. The existence of this correlation is necessary to ensure that the test measures what is needed to be measured. The second criterion for the fitting of reflective measurement models is convergent validity, which examines the correlation of each latent variable with its own questions (items).

A) Homogeneity test: The second condition for convergent validity is that all factor loads need to be greater than 0.7. Table 5.49 also confirms this.

B) The Average Variance Extracted (AVE) was used as the third indicator of convergent validity. AVE is the mean of the variance shared between each variable with its own items. In simple terms, AVE shows the correlation of a variable with its items; the greater the correlation, the greater the fit. An AVE equal to or greater than 0.5 confirms adequate convergent validity. This validity is included for the research variables in Table 5.47. It should be noted that all variables are in an acceptable range.

Table 5. 47. Convergent validity values

Variables		AVE
Firm performance		.810
Organizational foresight	Environmental scanning capabilities	.657
	Strategic selection	.691
	Integrating capabilities	.889
Strategic planning		.692
Strategic thinking		.708

C) Composite reliability: The last criterion for convergent validity is composite reliability which for each of the factors, for confirmation of convergent validity, should be greater than the average variance extracted ($CR > AVE$). By comparing tables 49 and 51, it can be inferred that for all latent variables, the CR value is greater than the AVE value, so the fourth condition of convergent validity is also established. Finally, according to the above four tests, it can be concluded that the research model has an appropriate convergent validity.

5.8. Model fit statistics

SEM can verify whether the theoretical model is supported by the empirical data. SEM analysis partly includes testing whether the theoretical and the data 'fit'. Model fit clarifies the degree to which the structural equation model and the sample variance-covariance data fit (Lomax and Schumacker, 2004). SEM statistical packages such as AMOS offer various model fit indexes which are used in various studies (Arbuckle, 2006; Byrne, 2001). Table 5.48 indicates some of the model fit's major indexes and their approvable levels and interpretation.

Table 5. 48. The model fit's major indexes

Fit index	Acceptable threshold levels	The model statistics	Description
Chi-Square χ^2	Low χ^2 relative to degrees of freedom with an insignificant p value ($p > 0.05$)	$\chi^2_{\text{model}}=18.593$, $P=0.233$	
Relative χ^2 (χ^2 / df)	2:1 (Tabachnik and Fidell, 2007) 3:1 (Kline, 2005)	$(\chi^2 / \text{df})_{\text{model}}= 1.240$	Adjusts for sample size.
Root Mean Square Error of approximation (RMSEA)	Values less than 0.07 (Steiger, 2007)	$\text{RMSE}_{\text{model}}= 0.044$	Values less than 0.03 represent excellent fit
GFI	Values greater than 0.90	$\text{GFI}_{\text{model}}= 0.969$	Scaled between 0 and 1, with higher values indicating better model fit.
AGFI	Values greater than 0.90	$\text{AGFI}_{\text{model}}=0.907$	Adjusts the GFI based on the number of parameters in the model. Values can fall outside the 0-1.0 range.
RMR	Good models have small RMR (Tabachnik and Fidell, 2007)	$\text{RMR}_{\text{model}}= 0.022$	Residual-based. The average squared differences between the residuals of the sample covariances and the residuals of the estimated covariances. Unstandardized.
Incremental Fit Indices (NFI)	Values greater than 0.90	$\text{NFI}_{\text{model}}=0.965$	Assesses fit relative to a baseline model which assumes no covariances between the observed variables. Has a tendency to overestimate fit in small samples.
NNFI (TLI)	Values greater than 0.90	$\text{NNFI}_{\text{model}}=0.982$	Non-normed, values can fall outside the 0-1 range. Favors parsimony. Performs well in simulation studies (McDonald and Marsh, 1990)
CFI	Values greater than 0.90	$\text{CFI}_{\text{model}}= 0.993$	Normed, 0-1 range.

Adapted from: Tajvidi (2015); Source: Hooper et al., (2008)

The following tables contain the model fit criteria in more detail.

Table 5. 49. CMIN

Model	NPAR	CMIN	DF	P	CMIN/DF
Default model	30	18.593	15	.233	1.240
Saturated model	45	.000	0		
Independence model	9	527.018	36	.000	14.639

Table 5. 50. Baseline Comparisons

Model	NFI Delta1	RFI rho1	IFI Delta2	TLI rho2	CFI
Default model	.965	.915	.993	.982	.993
Saturated model	1.000		1.000		1.000
Independence model	.000	.000	.000	.000	.000

Table 5. 51. RMSEA

Model	RMSEA	LO 90	HI 90	PCLOSE
Default model	.044	.000	.101	.511
Independence model	.334	.309	.360	.000

Table 5. 52. AIC

Model	AIC	BCC	BIC	CAIC
Default model	78.593	83.950	162.959	192.959
Saturated model	90.000	98.036	216.548	261.548
Independence model	545.018	546.625	570.328	579.328

5.9. Evaluation of model's predictive ability by R²

In models, r-squared clarifies the future outcomes of testing hypothesis predictability based on related information. Moreover, it enables researchers to measure how well the model replicated the results, based on total variation of outcomes (Carpenter, 1960; Glantz et al., 1990; Draper and Smith, 1998).

Table 5.53 represents the R² of the dependent variables.

Table 5. 53. The reported variance of R² of the groups

Dependent variable	Sample number (n=123)
	R ²
Strategic planning	.347
Firm performance	.351

According to Table 5.53, Strategic thinking, Strategic planning, and Organizational Foresight explain 0.351 of firm performance; this amount of variance is explained by the predictor variables and reveals the ability to predict the average criterion variable. Also, the variables of strategic thinking and organizational foresight explain 0.347 of the strategic planning variable.

5.10. Construct structural model

Table 5. 54. Regression weights

Variables			Estimate	S.E.	C.R.	P	Label
Strategic planning	<---	Integrating capabilities	-.004	.095	-.045	.964	par_4
Strategic planning	<---	Strategic selection	.391	.103	3.790	***	par_5
Strategic planning	<---	Environmental scanning capabilities	.103	.099	1.047	.295	par_6
Strategic planning	<---	Strategic thinking	.262	.105	2.506	.012	par_7
Firm performance	<---	Strategic planning	.314	.116	2.700	.007	par_8
Firm performance	<---	Integrating capabilities	.080	.097	.818	.413	par_9
Firm performance	<---	Strategic selection	.195	.110	1.668	.095	par_10
Firm performance	<---	Environmental scanning capabilities	.058	.101	.572	.568	par_11
Firm performance	<---	Strategic thinking	.266	.109	2.437	.015	par_12

P<0.05 is significant, *** p<0.001

Hypothesis 1 assumed that strategic thinking has a positive effect on firm performance. Based on table 5.54 the relationship is positive and significant ($\beta=0.26$, $P<0.05$), which supports the hypothesis.

Hypothesis 2 assumed that environmental scanning capabilities have a positive effect on firm performance. Based on table 5.54 the relationship is positive but not significant ($\beta=0.05$, $P>0.05$). This shows that the hypothesis is not supported.

Hypothesis 3 assumed that strategic selection has a positive effect on firm performance. Based on table 5.54 the relationship is positive but not significant ($\beta=0.19$, $P>0.05$). This shows that the hypothesis is rejected.

Hypothesis 4 assumed that integrating capabilities has a positive effect on firm performance. Based on table 5.54 the relationship is positive but not significant ($\beta=0.08$, $P>0.05$). This shows that the hypothesis is rejected.

Hypothesis 5 assumed that strategic thinking has a positive effect on strategic planning. Based on table 5.54 the relationship is positive and significant ($\beta=0.26$, $P<0.05$). This shows that the hypothesis is supported.

Hypothesis 6 assumed that environmental scanning capabilities have a positive effect on strategic planning. Based on table 5.54 the relationship is positive but not significant ($\beta=.10$, $P>0.05$). This shows that the hypothesis is rejected.

Hypothesis 7 assumed that strategic selection has a positive effect on strategic planning. Based on table 5.54 the relationship is positive and significant ($\beta=.39$, $P<0.05$). This shows that the hypothesis is supported.

Hypothesis 8 assumed that integrating capabilities has a positive effect on strategic planning. Based on table 5.54 the relationship is negative and is not significant ($\beta=-.004$, $P>0.05$). This shows that the hypothesis is rejected.

Hypothesis 9 assumed that strategic planning has a positive effect on firm performance. Based on table 5.54 the relationship is positive and significant ($\beta=.31$, $P<0.05$). This shows that the hypothesis is supported.

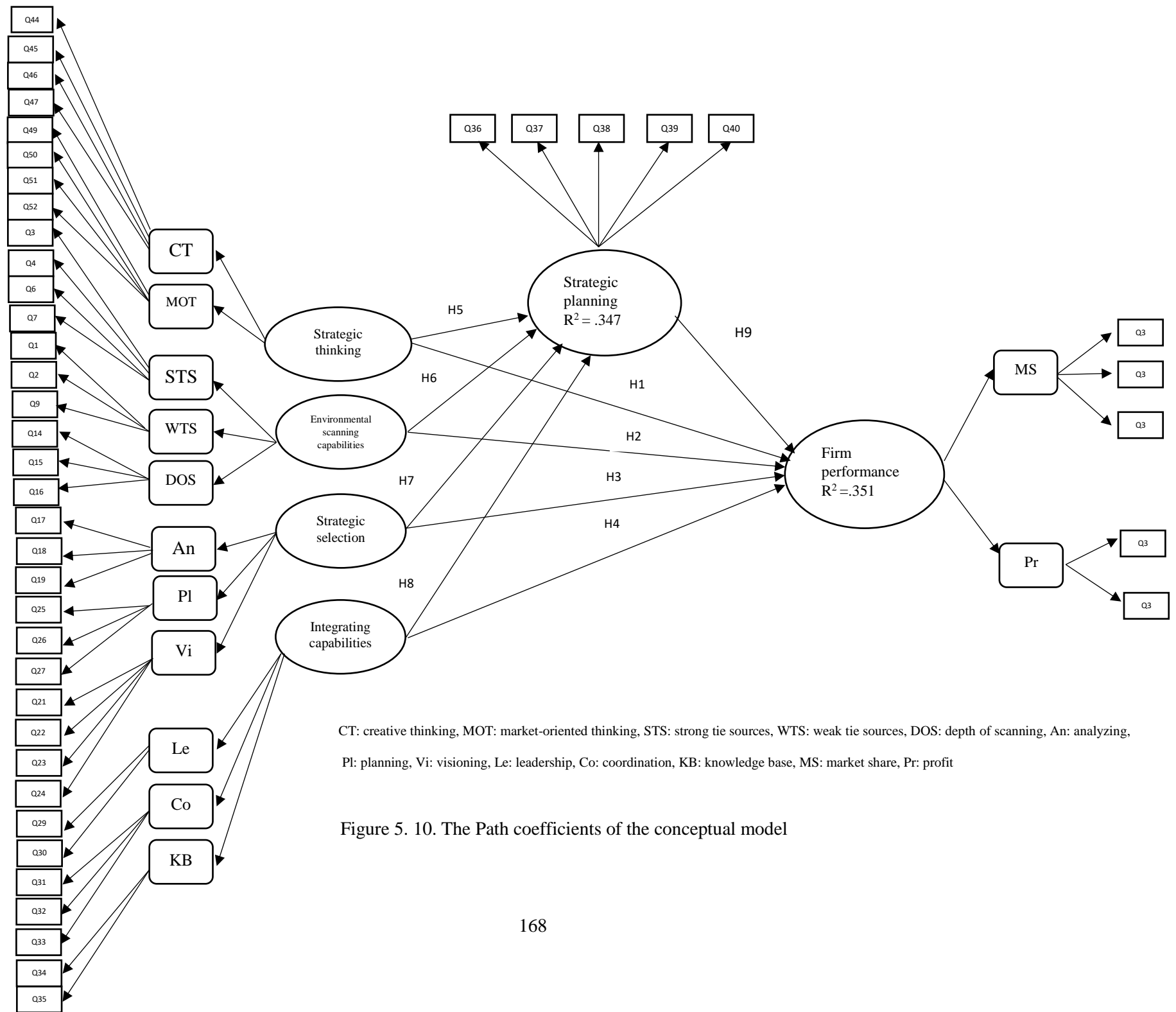


Figure 5. 10. The Path coefficients of the conceptual model

Table 5. 55. Construct structural model

Hypothesis	Path coefficient	t-values
H1: Strategic thinking —→ firm performance	.266	2.437
H2: Environmental scanning capabilities —→ firm performance	.058	.572
H3: Strategic selection —→ firm performance	.195	1.668
H4: Integrating capabilities —→ firm performance	.080	.818
H5: strategic thinking —→ strategic planning	.262	2.506
H6: environmental scanning capabilities —→ strategic planning	.103	1.047
H7: strategic selection —→ strategic planning	.391	3.790
H8: integrating capabilities —→ strategic planning	-.004	-.045
H9: strategic planning —→ firm performance	.314	2.700

5.11. Mediating effect of strategic planning

Direct effect and indirect effect are the two significant effects which need to be considered in analyzing the mediator. The straight effect of the independent variable on the dependent variable is called the direct effect. The effect of an independent variable through the mediator, which is the third variable, on the dependent variable is called the indirect effect (Shpitser, and VanderWeele, 2011).

In analyzing the mediator variable, it is essential to check whether the direct effect is significant. After adding the mediator, the independent variable's direct effect decreases as the

result of the mediator shifting some of the effects. In this research, the direct effects are the effects of strategic thinking, environmental scanning capabilities, strategic selection, integrating capabilities which are independent variables on firm performance, the dependent variable. These effects were estimated at the first step without the effect of a mediator.

In the next step, the mediator variable of strategic planning was added to the research model. Subsequently, the indirect effect of strategic planning as a mediator on strategic thinking, environmental scanning capabilities, strategic selection, integrating capabilities and firm performance relationship was tested. These relationships were analyzed by applying AMOS 24 and Table 5.55 represents the results summary.

The mediating effect of strategic planning is tested by conducting the three stages introduced by Baron and Kenny (1986). Stage 1 has tested the direct relationship between strategic thinking and firm performance ($\beta = 0.26$; $P < 0.05$) which is positive and significant. In stage 2 and 3 the relationship between strategic thinking and strategic planning was tested ($\beta = 0.26$; $P < 0.05$) along with the relationship between strategic planning and firm performance ($\beta = 0.31$; $P < 0.05$). Both relationships were positive and significant. The results indicate that strategic planning mediates the relationship between strategic thinking and firm performance.

In addition, the indirect effect of strategic planning was also tested. Following the work of Baron and Kenny (1986), we found that strategic planning fully mediates the relationship between strategic thinking and firm performance. Before the presence of strategic planning, the relationship between strategic thinking and firm performance was positive and significant ($\beta = 0.26$; $P < 0.05$); after adding the mediator the effect of strategic thinking on firm performance dropped from 0.26 to 0.21 and was not significant so it can be inferred that strategic planning fully mediates the relationship of strategic thinking and firm performance.

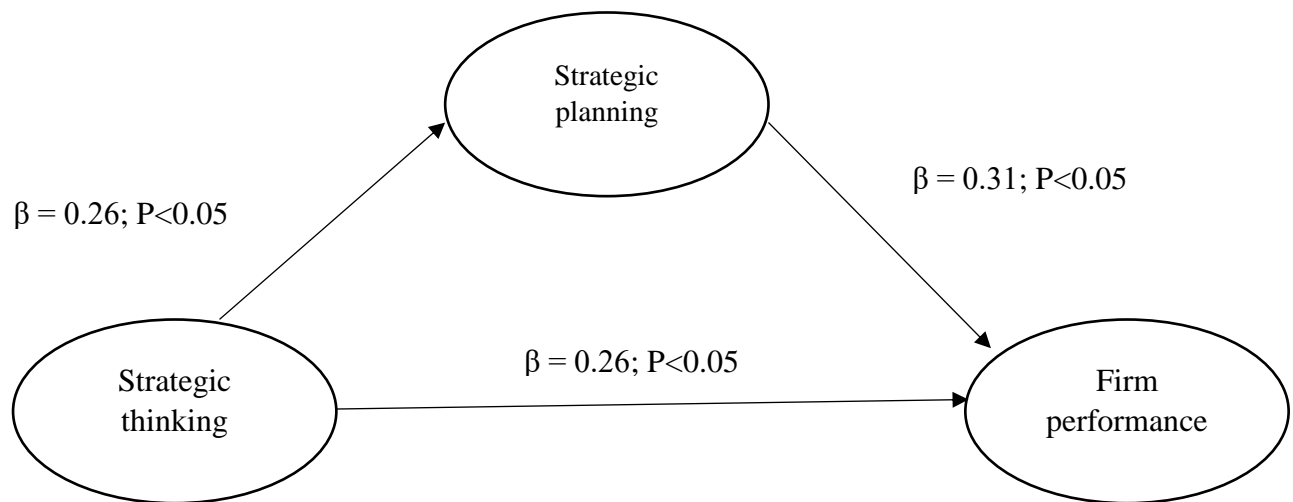


Figure 5. 11. Regression results for testing the mediating effect

All three stages above have been repeated for environmental scanning capabilities. Stage 1 has tested the direct relationship between environmental scanning capabilities and firm performance ($\beta = 0.05$; $P > 0.05$) which is positive but not significant. In stage 2 and 3 the relationship between environmental scanning capabilities and strategic planning was tested ($\beta = 0.10$; $P > 0.05$) along with the relationship between strategic planning and firm performance ($\beta = 0.31$; $P < 0.05$). Both relationships were positive but not significant. The results do not satisfy the first condition of mediation which can be inferred that strategic planning does not mediate the relationship between environmental scanning capabilities and firm performance.

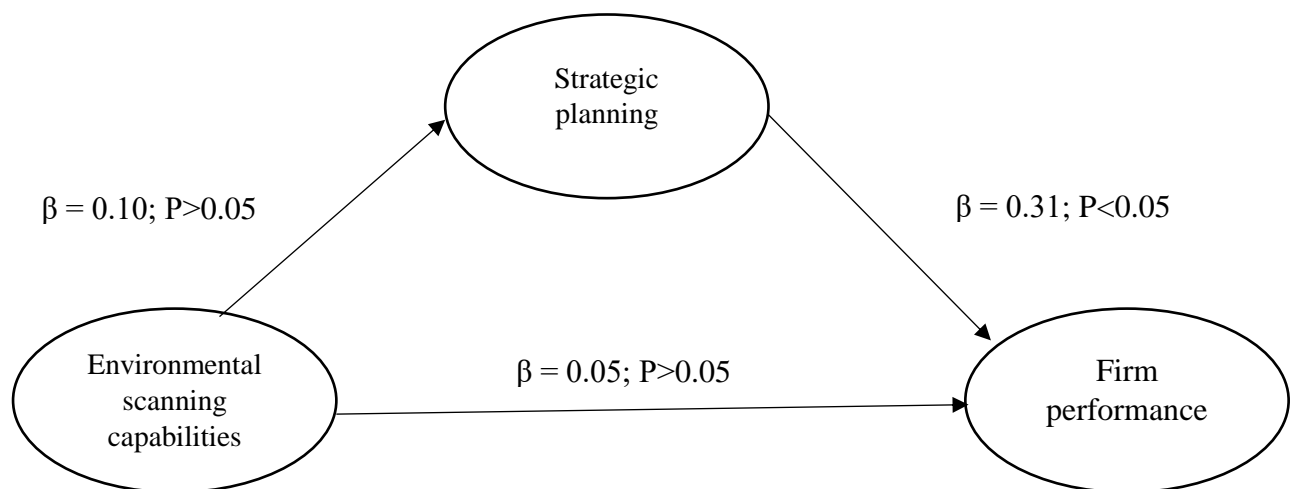


Figure 5. 12. Regression results for testing the mediating effect

All three stages above have been repeated for strategic selection. Stage 1 has tested the direct relationship between strategic selection and firm performance ($\beta = 0.19$; $P > 0.05$) which is positive but not significant. In stage 2 and 3 the relationship between strategic selection and strategic planning was tested ($\beta = 0.39$; $P < 0.05$) along with the relationship between strategic planning and firm performance ($\beta = 0.31$; $P < 0.05$). The results do not satisfy the first condition of mediation which can be inferred that strategic planning does not mediate the relationship between strategic selection and firm performance.

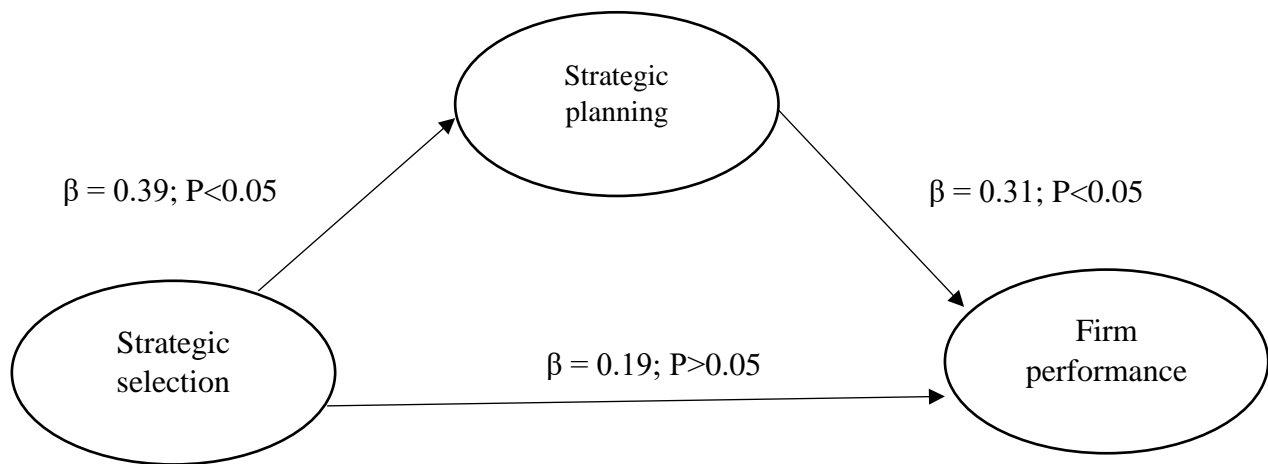
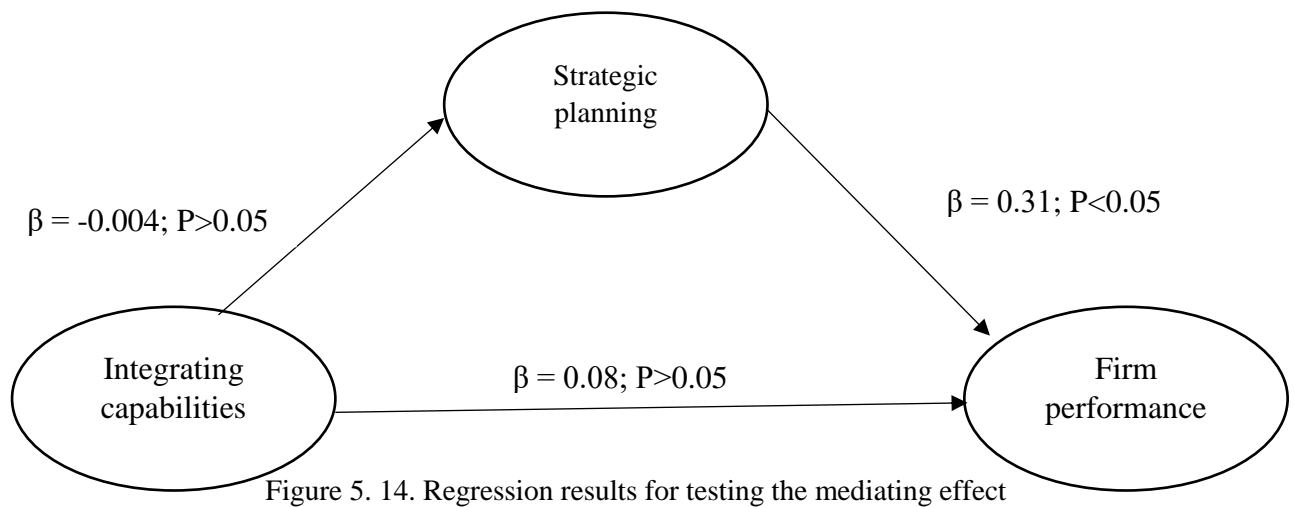


Figure 5. 13. Regression results for testing the mediating effect

All three stages above have been repeated for integrating capabilities. Stage 1 has tested the direct relationship between integrating capabilities and firm performance ($\beta = 0.08$; $P > 0.05$) which is positive but not significant. In stage 2 and 3 the relationship between integrating capabilities and strategic planning was tested ($\beta = 0.39$; $P < 0.05$) along with the relationship between strategic planning and firm performance ($\beta = 0.31$; $P < 0.05$). The results do not satisfy the first condition of mediation which can be inferred that strategic planning does not mediate the relationship between strategic selection and firm performance.



According to Baron and Kenny (1986), partial mediation is the mediation effect when the direct effect is decreased and significant.

On the other hand, complete mediation is when the direct effect is decreased but not significant. After testing the 3 stages, next was testing the direct and indirect effect of strategic planning on the relationship between strategic thinking and firm performance; without the presence of the mediator the results were ($\beta = 0.34$; $P < 0.05$). Subsequently, after adding the mediator the results were ($\beta = 0.26$; $P < 0.05$). This shows that strategic planning partially mediates the relationship between strategic thinking and firm performance since the effect was dropped but remained significant. This is represented in Table 5.56.

Relationship	Direct effect (without a mediator)	Direct with mediator	Indirect	Result
Strategic thinking on firm performance	.348 (***)	.266 (***)	.043	Full mediation

Table 5. 56. Mediating effect of strategic planning

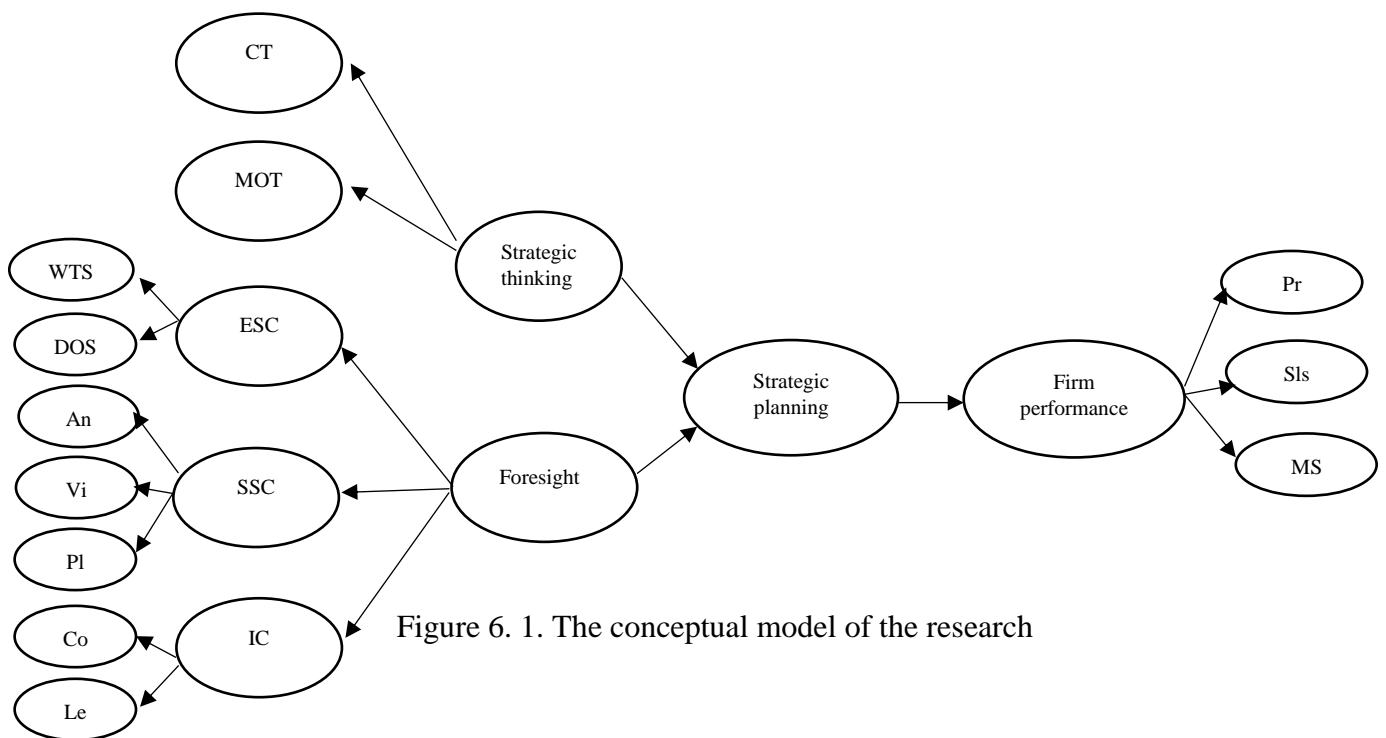
5.12. Chapter summary

The current chapter has included the survey data which was gathered via postal questionnaires. The data analysis has been undertaken based on SPSS and AMOS software via statistical and descriptive analysis. The outcomes of the descriptive analysis presented demographic information based on the characteristics of the respondents who are working in the UK's high-tech small and medium enterprises. The results have been illustrated in the relevant tables and graphs. Moreover, in the current chapter to test the study's hypotheses, correlation and SEM analysis have been applied. The path analysis represents the outcomes of the analysis. These have been shown in the related tables and support or rejection of the hypotheses have been argued. In the next chapter, these results and the relevant discussions have been explained extensively in order to have a clear view of the use of strategic thinking, organizational foresight, and strategic planning in SMEs.

Chapter six: Findings and discussion

6.1. Introduction

The current chapter of the research is reviewing the study's questions and hypotheses. Furthermore, it discusses the outcomes of descriptive and statistical analysis presented in the previous chapter. This chapter discusses the outcomes of data analysis which are associated with the study's hypotheses and the correspondence of the outcomes with prior empirical research. The discussions about the results take place on two levels. The first level considers the relationship between strategic thinking and firm performance plus the relationship between organizational foresight and firm performance. The second level includes the mediating effect of strategic planning on the relationship between strategic thinking and firm performance plus the mediating effect of strategic planning on the relationship between organizational foresight and firm performance. Figure 6.1 illustrates the research model which the hypotheses of our study are grounded upon.



6.2. The research hypotheses

6.2.1 Strategic thinking and firm performance

Concerning the association between strategic thinking and firm performance and organizational factors, the outcomes of the current research reveal that strategic thinking has a positive and significant effect on firm performance ($\beta=0.266$, $p<0.05$). The data analysis outcome reveals the support of the main hypothesis and stresses there is a positive and significant relationship between strategic thinking and firm performance. As stressed in pervious chapters there are various methods to measure firm performance. In this study, SME performance has been measured by financial and non-financial criteria. Financial measures are namely; profit, sales, market share, and non-financial measure is employment growth (number of employees). Table 6. 1 shows the statistical characteristics of the variables.

Table 6. 1. Statistical characteristics of the variables

Statistics						
	Environmental scanning capabilities	Strategic selection	Integrating capabilities	Firm performance	Strategic planning	Strategic thinking
Mean	3.40	3.13	3.44	3.41	3.55	3.67
Std. Error of Mean	.063	.075	.067	.076	.081	.060
Median	3.40	3.20	3.57	3.40	3.60	3.75
Mode	4.00	3.30	3.57	3.20	4.00	3.75
Std. Deviation	.70	.83	.75	.84	.90	.66

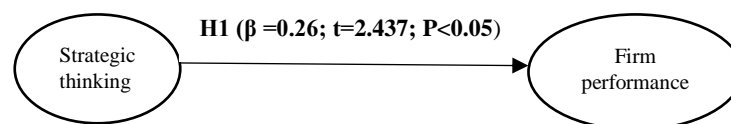


Figure 6. 1. Regression results for testing hypothesis H1

In this research, Moon's (2013) study has been used for adaptation of the measures which are namely vision-driven thinking, creative thinking, systematic thinking, and market-oriented thinking. The questionnaire asked the respondents to state the extent to which they agree or

disagree with the importance of vision-driven thinking, creative thinking, systematic thinking, market-oriented thinking, profit, sales, market share, and the non-financial measure of employment growth (number of employees) regarding strategic thinking and firm performance.

The SEM tested the exogenous and endogenous latent constructs for their linear covariance relationships. The latent constructs are firm performance and strategic thinking. Furthermore, the exogenous constructs are creative thinking, market-oriented thinking, profit, sales, and market share. The results of the analysis revealed that the variables' associations are significant. The outcomes of the analysis clarify the t-values and path coefficients (β). The hypothesis is supported based on the outcomes of the analysis and the association of the variables are positive and significant. Table 6.2. represents the results of the hypothesis analysis.

Moon (2013) reported that strategic thinking has a positive impact on marketing performance. Accordingly, he asserted that this result resounds with studies such as Fodness (2005), Jaworski and Kholi (1993), Kirca et al. (2005), Narver and Slater (1990), and Ruekert (1992). Consequently, the most vital task of a CEO and a company is to undertake sound management practices to avoid decline. This outcome highlights the significance of strategic thinking in the improvement of marketing performance. Our results revealed the significance of having strategic thinking practices in SMEs in accordance with having a superior performance.

Table 6. 2. Construct structural model

Hypothesis	Standardized coefficients	t-values
H1: There is a positive relationship between strategic thinking and firm performance	0.246	2.697

Furthermore, the SMEs are required to reach an efficient application of their resources to gain competitive advantages which are achievable due to their market orientation. Another feature

which is significant in enhancing strategic thinking in SMEs is creative thinking. SMEs need to apply the information, which exists in old structures and insights and designs, in a new way to have novel and creative perspectives and visions. Figure 6.2 demonstrates the results. This finding supports the previous findings' studies of Moon (2013) who reported that strategic thinking has a positive impact on marketing performance. Accordingly, he asserted that this result resounds with studies such as Fodness (2005), Jaworski and Kholi (1993), Kirca et al. (2005), Narver and Slater (1990), and Ruekert (1992). So, it can be inferred that by enhancing the capability of strategic thinking the firm can achieve a superior performance. Furthermore, the most vital task of a CEO and a company is to undertake sound management practices to avoid decline. This outcome highlights the significance of strategic thinking in improving performance.

According to Andersen (2000), one of the major influences of strategic planning is enhancing strategic thinking at all levels. It enables and encourages leaders to undertake suitable and opportune strategic actions. In the next sections, we assess the mediating effect of strategic planning on the relationship between strategic thinking and firm performance.

6.2.2. Organizational foresight and firm performance

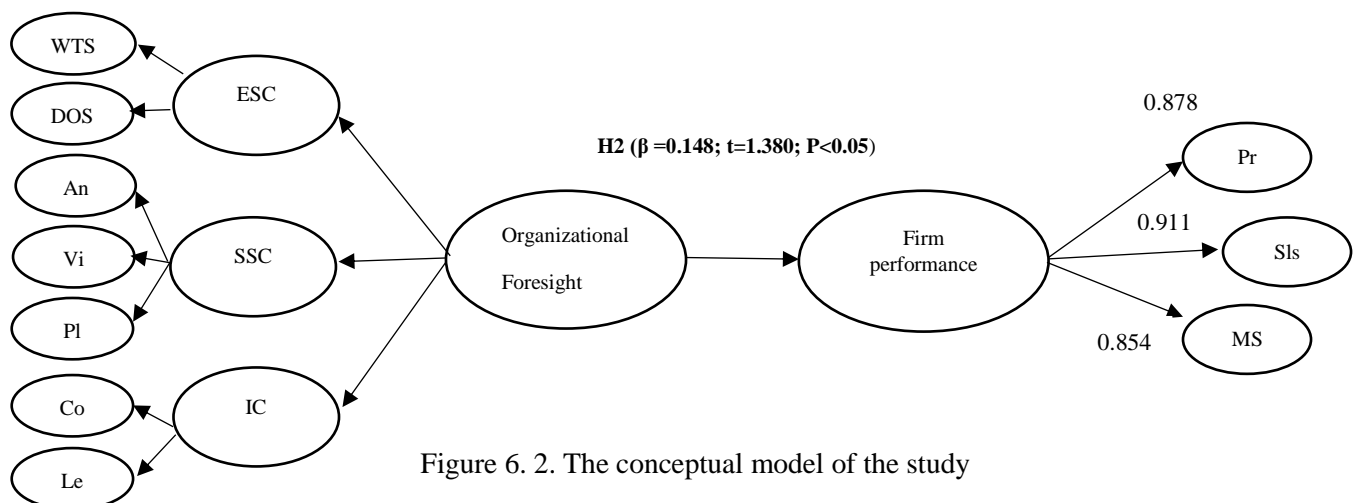


Figure 6. 2. The conceptual model of the study

According to Jissink et al., (2015) organizational foresight can affect all indicators of performance in companies. Their findings showed it can positively have an influence on the success and innovativeness of new products and the financial performance. This result attracts the attention of organizational foresight scholars since it enables firms to discover new markets, products or services. Plus, it allows them to recognize the ground-breaking opportunities before their competitors (Gavetti et al. 2012) which can have a positive impact on performance. In addition, organizational foresight can be viewed as a skill to detect novel opportunities for innovation which are more prosperous and innovative (Spanjol et al. 2012) which may help firms with higher performance (Patvardhan 2013). Jissink et al., (2015) concentrated on innovative companies and dimensions of innovation performance. Hence, it solely offers insight into the effect of organizational foresight on performance in the setting of innovation. Therefore, business leaders need to consider interpreting if they have innovation orientation. They stress their results are relevant to the firms which tend to apply organizational foresight as an insight which is in line with their strategic ambitions of generating innovations which are innovative and prosperous. Patvardhan (2013) stated that study on organizational foresight has progressively emphasized its capability to recognize novel opportunities for innovation which can be beneficial for a company pursuing higher performance.

6.2.2.1. Environmental scanning capabilities and firm performance

Evaluating the relationship of environmental scanning capabilities and firm performance revealed that environmental scanning capabilities have a positive effect on firm performance but statistically it is not significant ($\beta=0.058$, $p>0.05$). The result of the analysis leads to rejection of the hypothesis. However, the association is positive, consistent with the direction we proposed in our original hypothesis. As discussed in the previous chapters, to measure environmental scanning capabilities we used a firm's strong tie sources, weak tie sources, time

horizon, and depth of scanning from the following studies: Danneels (2008), Rohrbeck (2009), Delgado (2011), Amsteus (2011), and Rohrbeck (2010).

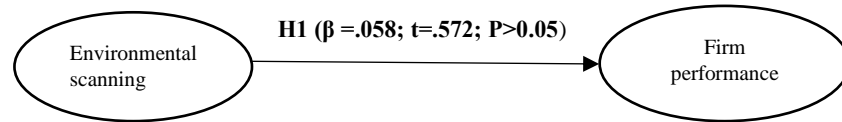


Figure 6. 3. The association of environmental scanning and firm performance

The respondents were asked to reply to what extent they agree or disagree with having the characteristics of strong tie sources, weak tie sources, time horizon, and depth of scanning in their companies. The exogenous and endogenous latent constructs of the linear covariance association were examined by SEM. Environmental scanning capabilities and firm performances are the latent constructs and strong tie sources, weak tie sources, time horizon, and depth of scanning are the exogenous constructs (Rohrbeck, 2010). The outcomes of the analysis show that there is a positive association between variables but statistically it is not significant. The results indicate the path coefficients (β) and t-values. According to this, the relationship of the variables is positive but not significant, hence the hypothesis is not supported. Table 6.3 shows the outcomes of testing the hypothesis.

Table 6. 3. Construct of the structural model

Hypothesis	Standardized coefficients	t-values
H2: There is a positive relationship between Environmental scanning capabilities and firm performance	.058	.572

The results imply that although the effect is not supported statistically, it is a positive effect hence, the companies need to use their information sources effectively since in their daily activities they are in touch with their social contacts which can generate beneficial information. Benefiting from external information sources which a company has limited contact with still

provides new information. If this takes place short-term and/or long-term it could help the company to expand its performance. This focus needs to be on different areas which could appear irrelevant to the firm while having the potential to create disruptive changes. These areas are difficult to spot and be prepared for.

6.2.2.2. *Strategic selection and firm performance*

In this study, the relationship between strategic selection and firm performance has been examined and it was revealed that the effect of strategic selection on firm performance is positive but not significant ($\beta = 0.19, p > 0.05$). This outcome shows that the hypothesis is not supported. According to previous chapters, to measure strategic selection we used analyzing, visioning, and planning as indicators from the following studies: Bishop et al., (2007), Gibson and Birkinshaw, (2004).

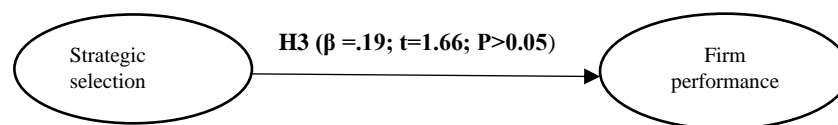


Figure 6. 4. The association of strategic selection and firm performance

Our questionnaire included items regarding strategic selection through its variables and asked participants the extent to which they agree or disagree with having the characteristics of analyzing, visioning, and planning in their organizations. The SEM tested endogenous and exogenous items of the linear covariance relations. Strategic selection and firm performance are the latent variables and analyzing, visioning and planning are the exogenous ones. The results clarify that there are positive associations, but they are not significant. Consequently, the hypothesis is not supported.

Strategic selection helps companies to define the collected data and have an image of the future circumstances. In addition, it gives an image of future alternatives and uncertainties and their

consequences. Subsequently, it helps with selecting a favorable future and picturing the best consequence, setting objectives, and performance evaluations. It enhances the organization's procedures and ensures that the firm's activities, capabilities, and processes are in line with a company's visions in the long run (Grim, 2009, Bishop et al., 2007). Table 6.4 shows the outcomes of testing the hypothesis. The findings show the effect is positive which confirms the hypothesis effect but in statistical significance it does not support the hypothesis.

Table 6. 4. Construct structural model

Hypothesis	Standardized coefficients	t-values
H3: There is a positive relationship between strategic selection and firm performance	.19	1.66

The results indicate that strategic selection effect is not statistically significant, but it has a positive impact on firm performance which shows consistency towards our main hypothesis. It implies if we have one incremental unit of strategic selection in our firm it increases the performance by 0.19 units, other variables being equal. We can imply from the results, although statistically insignificant, by visioning, analyzing and planning we can have a minor positive impact on firm performance. It can be achieved by collecting data and creating an image towards the future upon those data to have a set of alternatives in the future. Having future uncertainty is inevitable but with this tool, we can measure and approach uncertainty and its outcomes. Through this, firms can make a preferred choice and imagine the best result to set the objectives and assess the performance. Furthermore, firms, in the long run, can clarify their processes and make sure that all the components of the organization are in the same direction as that of the vision.

6.2.2.3. Integrating capabilities and firm performance

After assessing the association of integrating capabilities and firm performance, the results revealed that integrating capabilities has a statistically insignificant but positive impact on firm performance ($\beta = .08$; $P > 0.05$). According to our research, to measure integrating capabilities Leadership, Coordination, and Knowledge base should be considered. This measures the extent to which leaders in organizations encourage their organizational culture to have a broader vision. Furthermore, to develop the capability of communications (informal and formal), that clarifies the role and efficiency of communication on future visions' diffusion. It also helps with the organization's knowledge accumulation personified by the capable workforce and grown via learning efforts in the organization (Rohrbeck, 2010; Delgado, 2011; Dobni and Brook, 2008).

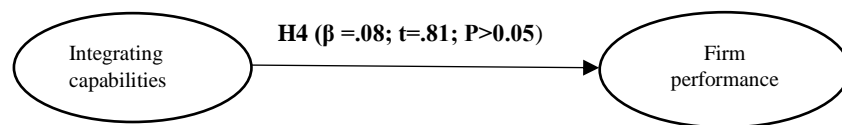


Figure 6. 5. The association of integrating capabilities and firm performance

The survey instrument consists of questions related to integrating capabilities. The variables were reflected in the items which asked individuals to express the extent to which they agree or disagree with the statement. The statement measured Leadership, Coordination, and Knowledge base. The results of SEM analysis revealed the endogenous and exogenous items of the linear covariance relations. Firm performance and Integrating capabilities are the latent variables and Leadership, Coordination, and Knowledge base are the exogenous variables. The analysis showed they are positive but not significant. Hence, the hypothesis is not supported.

The leadership represents the extent to which senior managers enhance the organizational culture exposed to a broader vision. Coordination expresses the formal and non-formal communications' capacity that pictures the role and efficiency of communication in the dispersion of forthcoming visions (Rohrbeck, 2010; Guliani and Bell, 2005). Table 6.5 shows the outcomes of testing the hypothesis.

Table 6. 5. Construct structural model

Hypothesis	Standardized coefficients	t-values
H4: There is a positive relationship between integrating capabilities and firm performance	.080	.818

The outcomes of the analysis reveal integrating capabilities do not have a statistically significant effect on firm performance, yet they show a positive effect on firm performance. Subsequently, it reveals a constancy to the main hypothesis. The results guide us to a conclusion that if there is one incremental unit of integrating capabilities in the organization it enhances the performance by 0.080 units, other variables being equal. It reveals that despite the statistical insignificance, by applying Leadership and Coordination the firm performance will be impacted positively but in a minor way. It can be concluded that if managers develop an organizational culture which is open to a wider vision and builds a formal and non-formal capacity of effective communication regarding the future visions, yet enhances the knowledge accumulation in the organization, then they can partially enhance the performance of the firm.

6.2.3. Organizational foresight and strategic planning

6.2.3.1. Environmental scanning capabilities and strategic planning

The relationship between environmental scanning capabilities and strategic planning has been evaluated in our research. The results ($\beta=0.10$, $p>0.05$) stress that the environmental scanning

capabilities effect on strategic planning does not show a statistical significance but the effect is positive, so it is consistent with the main hypothesis. It leads us to the conclusion that if there is one incremental unit of environmental scanning capabilities in a company it can improve strategic planning by 0.10 units, other variables being equal. This illustrates that even though it is statistically insignificant, by using environmental scanning capabilities the firms can positively improve strategic planning, but this improvement is partial.

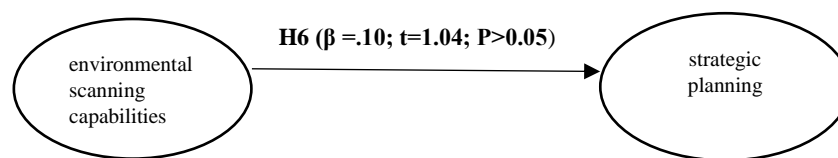


Figure 6. 6. The association of environmental scanning capabilities and strategic planning

Environmental scanning capabilities were the latent variable and Strong tie sources, Weak tie sources, and Time horizon were its exogenous variables. On the other hand, strategic planning was the latent variable and Mission statement, Trend analysis, Competitor analysis, Long-term goals, Annual goals, Ongoing evaluation, and Short-term were its exogenous items. The results showed although there is no statistical significance in the relationship, environmental scanning capabilities have a positive impact on strategic planning. The analysis output gave us t-values and path coefficients. Accordingly, it can be concluded that the hypothesis is not supported.

Table 6. 6. Construct structural model

Hypothesis	Standardized coefficients	t-values
H6: There is a positive relationship between environmental scanning capabilities and strategic planning	0.10	1.04

The results implicate that environmental scanning capabilities do not have a statistically significant impact on strategic planning but if there is one incremental unit of environmental

scanning capabilities in the firm it improves strategic planning by 0.10 units, other variables being equal. It can be implied that by having environmental scanning capabilities the organization can have an improved strategic planning, yet the improvement is partial.

6.2.3.2. Strategic selection and strategic planning

The relationship between strategic selection and strategic planning was evaluated. The results of the analysis indicated a strategic selection has a positive and significant influence on strategic planning ($\beta=0.39$, $p<0.05$). Consequently, the main hypothesis was supported. So, it can be concluded that by applying Analyzing, Visioning, and Planning companies can enhance Mission statement, Trend analysis, Competitor analysis, Long-term goals, Annual goals, Ongoing evaluation, and Short-term action plans.

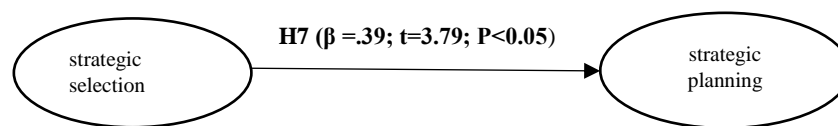


Figure 6. 7. The association of strategic selection and strategic planning

SEM was applied for the analysis. Strategic selection and strategic planning were the latent variables and exogenous items were; Analyzing, Visioning, Planning, Mission statement, Trend analysis, Competitor analysis, Long-term goals, Annual goals, Ongoing evaluation, and Short-term action plans. The outcomes revealed a positive and statistically significant relationship between the two latent variables. The analysis revealed t-value is 3.79 and path coefficient is 0.39. We can conclude that the main hypothesis is supported, and the relationship is positive and significant. Table 6.7 clarifies the results of the analysis.

Table 6. 7. Construct structural model

Hypothesis	Standardized coefficients	t-values
H7: There is a positive relationship between strategic selection and strategic planning	0.39	3.79

It can be implied from the results that applying Analyzing, Visioning, and Planning in the organization can significantly enhance Mission statement, Trend analysis, Competitor analysis, Long-term goals, Annual goals, Ongoing evaluation, and Short-term action plans in the organization.

6.2.3.3. Integrating capabilities and strategic planning

In our study, we examined the association between integrating capabilities and strategic planning. The results showed that the relationship is negative and statistically not significant ($\beta = -.004$, $p > 0.05$). As a consequence, it can be concluded that the main hypothesis is not supported.

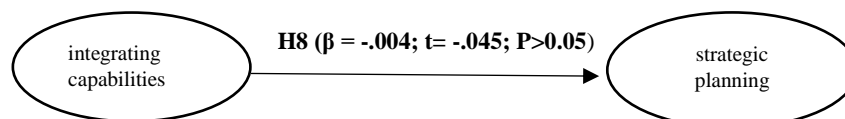


Figure 6. 8. The association of integrating capabilities and strategic planning

The linear covariance of the relationship between exogenous and endogenous constructs was tested by SEM. The latent are integrating capabilities and strategic planning. And the exogenous ones are; Leadership, Coordination, Knowledge base, Mission statement, Trend analysis, Competitor analysis, Long-term goals, Annual goals, Ongoing evaluation, and Short-term action plans. The analysis outcomes clarified the relationship is not positive and it is not statistically significant. Path coefficients and t-values were extracted from the outcomes of the

analysis. As a result, it can be concluded that the hypothesis is not supported. Table 6.8 shows the results of the hypothesis analysis.

Table 6. 8. Construct structural model

Hypothesis	Standardized coefficients	t-values
H8: There is a positive relationship between integrating capabilities and strategic planning	-.004	-.045

The result of t-statistics is negative when it is smaller than the hypothesized value. On the other hand, it will be positive when it is greater than the hypothesized value. Subsequently, the interpretation of both negative and positive t-statistics is similar to an indication against the null hypothesis.

6.2.4. Strategic thinking and strategic planning

By considering the relationship between strategic thinking and strategic planning, the result of data analysis shows strategic thinking has a positive and significant impact on strategic planning ($\beta=0.26$, $p<0.05$). The main hypothesis was supported based on the outcomes of the analysis. There are various methods of measuring strategic planning. Our study evaluates it based on Mission statement, Trend analysis, Competitor analysis, Long-term goals, Annual goals, Ongoing evaluation, and Short-term action plans.

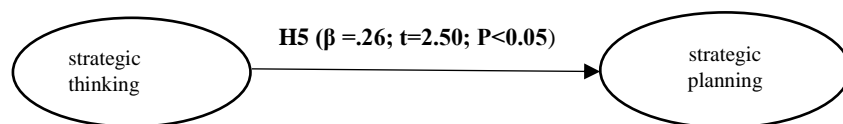


Figure 6. 9. The association of integrating capabilities and strategic planning

The respondents were asked to reveal the degree to which they support the application of Mission statement, Trend analysis, Competitor analysis, Long-term goals, Annual goals,

Ongoing evaluation, and Short-term action plans in their organization. After collecting the data, the SEM was used for analysis. Both strategic thinking and strategic planning were latent variables and the exogenous items are named above. The results of the analysis exposed that there is a significant association among variables. The analysis outputs revealed t-values and path coefficients (β). Based on the results we can conclude that the hypothesis is supported and there is a positive and significant association between the variables. Table 6.9 represents the results of the analysis.

Table 6. 9. Construct structural model

Hypothesis	Standardized coefficients	t-values
H5: There is a positive relationship between strategic thinking and strategic planning	0.26	2.50

From the output it can be concluded that the hypothesis is supported since the effect of strategic thinking is positive and statistically significant. It shows that by applying creative thinking and market-oriented thinking in the organizations, the leaders can foster strategic planning and its elements which are: Mission statement, Trend analysis, Competitor analysis, Long-term goals, Annual goals, Ongoing evaluation, and Short-term action plans which could improve the performance of the firm.

6.2.5. Strategic planning and firm performance

In our research, we examined the relationship between strategic planning and firm performance. The results ($\beta=0.31$, $p<0.05$) show that the relationship is positive and significant. It can be implied from the results that strategic planning has a positive and significant effect on firm performance. These outcomes support the main hypothesis which claimed there is a positive and significant association among the two variables.

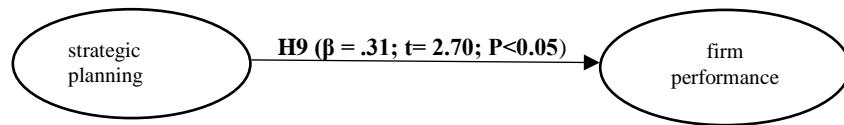


Figure 6. 10. The association of strategic planning and firm performance

Strategic planning and firm performance are the latent variables and the exogenous constructs were Leadership, Coordination, Knowledge base, Mission statement, Trend analysis, Competitor analysis, Long-term goals, Annual goals, Ongoing evaluation, Short-term action plans, profit, sales, and market share. The results signified the t-values and path coefficients which are as follows: ($\beta = .31$; $t= 2.70$; $P<0.05$). Consequently, it can be inferred from the results that the hypothesis is supported, and the relationship between the variables is positive and statistically significant. Table 6.10 illustrates the results of the hypothesis analysis.

Table 6. 10. Construct structural model

Hypothesis	Standardized coefficients	t-values
H9: There is a positive relationship between strategic planning and firm performance	0.31	2.70

Stonehouse and Pemberton (2002) concluded that SMEs mainly put emphasis on “financial analysis, profit targets, and short-term planning horizons”. This implies that SMEs consider more business planning rather than having strategic thinking. It can be inferred that their short-term business planning can be the main reason for their considerable failure rate. Furthermore, UK SMEs have a higher failure ratio compared to their counterparts in Germany which could demonstrate poor performance. Dibrell et al., (2014) demonstrated that there is a positive and strong relationship between SMEs’ long-term planning degree and their success.

Moreover, Stonehouse and Pemberton (2002) stressed that the vision statement or mission statement has been stated in numerous organizations’ business objective mechanisms of

strategic plans. From this, it can be inferred that there is an emergent or learning approach to strategy that allows firms to quickly react to changes in the environment as a result of their flexibility. Additionally, by benefitting from strategic planning tools firms are able to have an effective analysis of the internal and external environment. This enables them to improve organizational learning and enhance strategic thinking.

According to Elbanna et al., (2016), the boards of small companies with high performance are involved in systematic business planning more often than ones with poorer performances. Additionally, Upton et al., (2001) reported that it is vital that firms which are managed by their owners to practice formalized strategic planning since the boards of family firms with high growth are strongly involved in strategic planning activities. Moreover, Smith et al. (1988) asserted in their research that there is a strong association between comprehensiveness of decision processes and positive performance. This result reveals the significance of having a critical review that strategy is grounded upon.

Gibbons and O'Connor (2005) argued that firms can benefit from a formalized method to have a better understanding of their capabilities and their external and internal environment. Benefiting from such understanding enables SMEs to outperform their competitors. According to Ghobadian et al., (2008), on average companies with written strategic plans have superior performance compared to ones without written strategic plans. In addition, the companies which deploy formal strategic plans highly outperform the ones whose formal strategic planning is low or medium level.

In empirical research, Andersen (2000) concluded that strategic planning is associated with higher performance in the observed industrial environment. Hence, strategic planning enhances innovation and financial performance of the organizations. Consequently, it is an essential stimulus for performance in all settings. Therefore, the strategic planning procedures are

critical elements of superior performance and should not be undermined. Our study confirms the vitality of strategic planning for an enhanced SME performance which is in line with previous studies in this area.

6.3. Chapter summary

The current chapter has included an inclusive model which represents strategic thinking, strategic planning, organizational foresight, and firm performance. All these model's variables have been empirically examined and discussed. In total, it can be concluded that there is a positive and significant association between strategic thinking and SME performance, among organizational foresight and environmental scanning capabilities. It is concluded that there is a significant relationship between strategic thinking and strategic planning and they have a positive and significant effect on firm performance. Moreover, strategic thinking and strategic selection have a positive effect on strategic planning. Furthermore, strategic planning mediates the relationship between strategic thinking, strategic selection and firm performance. It can be concluded that strategic planning does not mediate the relationship between environmental scanning capabilities, strategic selection and firm performance. Besides, the analysis reveals that environmental scanning capabilities, strategic selection, and integrating capabilities have a positive but not a significant effect on firm performance. In addition, integrating capabilities have a negative impact on strategic planning which indicates that in the strategy making process firms do not need to use integrating capabilities in strategic planning.

Chapter Seven: Conclusion

7.1. Introduction

The main goal of this research was to evaluate the impact of strategic thinking, organizational foresight, and strategic planning on firm performance in high-tech small and medium enterprises in the United Kingdom. In the first chapter, the study's scope and objectives were discussed. The chapter also presented the main studies in the subjects of strategic thinking, organizational foresight, strategic planning, and firm performance. Furthermore, the study objectives and research questions were explained alongside the methodological perspectives.

In the second chapter, strategic thinking, organizational foresight and strategic planning were explained in the context of SMEs. It demonstrated the theories and definitions of the main concepts plus the firm performance in SMEs. Subsequently, the third chapter started with illustrating the research questions and objectives. It explained the previous studies' synthesis regarding strategic thinking, organizational foresight, strategic planning, and firm performance. Moreover, it presented the variables of the research measurement in detail and the conceptual framework of the study.

In the fourth chapter, methodology and the research design were discussed. Research philosophy, research approach, and the research design were also introduced in this chapter. Subsequently, the study's proposed conceptual model was presented along with research hypotheses regarding the association between strategic thinking, organizational foresight, strategic planning and firm performance in SMEs. The chapter finished with the plan for the data analysis of the research. The fifth chapter started with descriptive analysis and presented a broad image of the study's data. Subsequently, the analysis of data and multiple regression analysis via SEM and path analysis were discussed.

In the next chapter, chapter six, the outcomes of the data analysis were discussed regarding strategic thinking, organizational foresight, strategic planning and firm performance in SMEs. In addition, it discussed the significance of strategic thinking, strategic planning and organizational foresight for SME performance. Moreover, it connected the results with previous studies in the areas covered by the research.

The final chapter, chapter seven, discusses the study's findings. It stresses the theoretical contribution of the study and discusses the managerial and policy implications and as the final section the limitations of the research are discussed and the suggestions for further research outlined.

7.2. Revisiting the study's research questions and objectives

The study's questions had been developed from previous studies' analysis. It had been stressed that most of the previous studies in the studied area have concentrated on large companies and there is a lack of empirical study on how to strategize SMEs through strategic thinking, strategic planning, and organizational foresight. The essentiality of these concepts has been stressed but to the best of our knowledge, there is a lack of empirical research on how to combine these three significant concepts of management to improve the performance of high-tech SMEs.

Therefore, this research's main purpose is to cover this literature gap and to examine the relationship among strategic thinking and organizational foresight with high-tech SMEs' performance while strategic planning plays the role as the mediator of this association. Consequently, our research questions try to develop the body of knowledge via empirical examination. Our research interest is that strategic thinking and organizational foresight improve SME performance. By reviewing previous studies, it is clear that strategic thinking has a positive

and significant impact on SME performance (Moon, 2013; Fodness, 2005; Kirca et al., 2005; Peel and Bridge, 1998; Jaworski and Kholi, 1993; Ruekert, 1992; Narver and Slater, 1990). Some studies report that the main emphasis of SMEs is on “financial analysis, profit targets, and short-term planning horizons”. This demonstrates that SMEs stress business planning rather than developing strategic thinking. Hence, it can be concluded that the cause of their high failure rate is emphasizing business planning in the short-term (Stonehouse and Pemberton, 2002). To respond to the questions of the research, it will be clarified which strategic thinking components are essential for high-tech SMEs and which improve their performance the best. This study also examines the mediating effect of strategic planning on improving the association between strategic thinking and organizational foresight with firm performance. This study has considered the benefits to the companies who applied strategic planning which can moderate such a relationship. According to the previous studies, strategic planning is an essential factor for firms to have a long-term plan which helps them to survive and grow as one of the major tools of contemporary management (Rue and Ibrahim, 1995; Smith et al., 1988; Gibbons and O’Connor, 2005; Ghobadian et al., 2008; Andersen, 2000). Moreover, organizational foresight can have a vital impact on the indicators of firm performance. It could have a positive impact on a business’s innovativeness and success by enabling companies to clarify valuable opportunities (Jissink et al., 2015; Patvardhan 2013; Gavetti et al., 2012; Spanjol et al. 2012).

7.3. Summary of major findings

The major outcomes of the study are discussed in this section, which considers the relationship between the concepts as follows:

- Overall the outcomes of the data analysis demonstrate that strategic thinking has a positive and significant effect on SME performance. Hence, the SMEs applying it will have a superior performance compared to the ones which do not. These findings are in line with this study's proposed hypothesis.
- The results reveal that strategic planning has a positive and significant impact on SME performance. So, it can be concluded that the SMEs which practice strategic planning and benefit from having a written and formal document could enhance their performance and outperform their competitors who do not use this tool. Hence, it can be concluded that the finding confirms this study's hypothesis.
- Organizational foresight has been divided into three main variables which are environmental scanning capabilities, strategic selection, and integrating capabilities. By assessing their impact, it has been discovered that environmental scanning capabilities have a positive impact on SME performance but statistically it is not significant. Hence, although it is not statistically confirmed, firms could benefit from it. Furthermore, although statistically non-significant, strategic selection in SMEs can improve their performance. Integrating capabilities can enhance SMEs performance although statistically the effect is not significant. The positiveness of the results is similar to the hypothesis but statistical significance does not support the hypothesis.
- The results revealed that strategic thinking has a positive and significant impact on strategic planning. It shows that by applying strategic thinking tool, a firm is able to improve their strategic planning. This is in line with the proposed hypothesis of this study.
- The results demonstrated that although the effect of environmental scanning capabilities on strategic planning is not significant, it is positive. By practicing these processes the firms

can improve their strategic planning tool. Although the statistical significance does not support the hypothesis, the positive association shows a proposed positive effect.

- The data analysis outcomes indicated that strategic selection has a positive and significant effect on strategic planning. By using strategic selection, companies can improve their strategic planning practices. This supports the proposed hypothesis.
- The results showed that integrating capabilities has a negative and non-significant effect on strategic planning. By having superior strategic planning the firm does not need to apply integrating capabilities. This result does not support the proposed hypothesis of the study.
- The outcomes of the data analysis revealed that strategic planning mediates the relationship between strategic thinking and SME performance. This proves that by using strategic planning as a mediator SMEs can enhance the effect of strategic thinking on their performance and have a superior position against their competitors who do not benefit from this tool. These outcomes fully support the study's hypothesis.
- The outcomes presented that strategic planning does not mediate the relationship between environmental scanning capabilities and firm performance. Hence, SMEs do not need to use strategic planning to enhance the effect of environmental scanning capabilities on their performance. This does not confirm the study's hypothesis.
- The outcomes do not meet the conditions of mediation, so it can be concluded that strategic planning does not mediate the relationship between strategic selection and firm performance. Consequently, for improving the impact of strategic selection on performance, SMEs do not need to apply strategic planning. This rejects the proposed hypothesis.

- The data analysis outcomes do not confirm the mediation of strategic planning on the relationship between strategic selection and firm performance. Hence, it can be inferred that to have superior strategic selection, it is not essential to practice strategic planning. This finding does not confirm the study's hypothesis.

7.4. Theoretical contributions

Our study has undertaken a significant contribution to the literature of strategic management in the area of small and medium sized enterprises. For a long time, strategic thinking has been a significant area of management studies. Scholars stressed the significance of it in companies. In addition, strategic thinking is perceived as a vital challenge for organizations' leaders. Evaluating the previous studies leads us to the circumstance that there is a mounting awareness about the vitality of strategic thinking mainly in SMEs (Liedtka, 2016; Pagani and Otto, 2013; Bonn, 2001; Besanko et al., 2000; Porter, 1987 and 1996;). Hence, practitioners concentrate on the way that SMEs benefit from strategic thinking in their activities; especially, they try to assess the cause of the higher success of large organizations compared to SMEs in strategic thinking in the sense that strategic planning and strategic thinking are the vital practices in any organization (Calabrese and Costa, 2015).

Gibson and Cassar (2002) revealed SMEs practice an inadequate level of strategic thinking while their large counterparts which benefit from it have a superior success rate. In view of the vitality of strategic thinking in small and medium enterprises, the policymakers and governments stress training and enhancing strategic thinking processes. Irrespective of the size of the organization, using strategic activities is essential and applying the processes of strategy enables enterprises with strategic thinking alignment (Kraus, 2007).

A key factor for superior performance and growth in organizations is strategic behavior, essentially in a competitive environment (Bernut, 2009). Graetz (2002) showed that designing a suitable strategy is a major risk for organizations and it is essential to consider that two vital elements of such a task are strategic thinking and strategic planning. Moon (2013) asserted that strategic thinking helps the firm to analyze their environment. In addition, it helps organizations to perceive the future which generates new ideas. Moreover, strategic thinking allows organizations to have a better understanding of their rivals. This study's main contribution is to use strategic planning as a mediation variable to the subject field's current conceptual frameworks. In the literature of strategic management, there are various studies that adopt strategic planning and the vitality of it as a change tool (Rigby and Bilodeau, 2011; Dibrell et al., 2014). Additionally, under the pressure of a turbulent environment, it has been understood as an essential tool for organizations' leaders. In addition, it has been viewed as a beneficial tool and a valid practice (Elbanna et al., 2016).

Brews and Hunt (1999) believed underperforming SMEs suffer from trial and error which results in wasting time; these companies do not benefit from planning. Meanwhile, companies which practice sound strategic planning benefit from a created capacity by having strategies that enhance their competitive advantage over their rivals (Hamel and Prahalad, 1994; Liedtka, 2000). Vishnevskiy et al., (2015) revealed that applying organizational foresight enables firms to alter future circumstances. Also, it affects the future through different futures and this leads to a preferred future. The background of the literature indicates that SMEs closely rely on their skills and the ideas of their employees. Normally, they do not have adequate time and resources which leads to a lack of long-term vision. Many lifestyle firms do not have growth ambition. In simple terms, their operations are based on their short-term needs of the managers or owners.

However, such short-term orientation has a cause; their response to organizational foresight is not certain and usually, it is not used, or their response is reactive and for them, it is difficult to change such a view. Not many SMEs apply organizational foresight with a proactive and long-term vision but the ones that use it might not have leaders with outstanding organizational foresight knowledge, but they present a substantial organizational foresight culture. For such companies, the future is viewed not as a threat, it is approached as an opportunity (Kayser and Blind, 2017). Organizational foresight currently is used widely with broad methodologies and approaches. The focus is to enforce decision-making processes which are future-oriented through clarifying and assessing drivers of change and the emerging trends (Du Toit, 2016; Battistella and De Toni, 2011). Additionally, reviewing the current literature and previous research reveals that there is a lack of studies on combining three important concepts of management, namely strategic thinking, organizational foresight, and strategic planning; hence the significance of this study is considering these three in a model which is a direct response to the existing gap.

7.5. Policy implications

The essentiality of small and medium enterprises for a country's economy has been pointed out in the previous chapters. SMEs in some industrial sectors are vital for gaining competitive advantage through innovation and generating employment. In recent decades, the UK government and policy makers have extensively focused on SMEs since their growth leads to economic prosperity. Hence, this study's findings can be beneficial for the policymakers. These results can enable them to have a better understanding of SMEs and their performance and the factors which can improve it. This might help economic growth in the UK. Contrary to the financial support of the UK government for SMEs, the rate of failure is high. While they are named the lifeblood and backbone of the

economy, the lack of empirical studies has been a negative point. This signifies the contribution of the current study to Britain's economy.

This study's outcomes demonstrate that SMEs which benefit from strategy tools such as strategic planning, strategic thinking, and organizational foresight can outperform their competitors who have no focus on these practices. Moreover, it can be a useful implication for the government that the SMEs which practice strategy, particularly in the high-tech sector, can be guided to practice and emphasize more on strategizing themselves for a superior performance. In conclusion, this can benefit SME leaders with the knowledge that by supporting strategy practices and processes in their companies they can benefit from higher performance and consequently gain a competitive advantage which leads to survival and growth in the long term. Therefore, the agencies of the government can provide training programs for owners or managers of SMEs, especially in the high-tech sector, to gain superior performance. Benefitting from strategic thinking, organizational foresight and strategic planning knowledge will have a positive impact and lead to high-tech small and medium enterprises having success.

7.6. Managerial implications

This study's outcomes reveal that SME managers' knowledge of strategic thinking, organizational foresight, and strategic planning can positively influence their style of management by enabling them to have a long-term vision and formalize their strategy processes to survive and grow in a highly turbulent market. In addition, it is vital, particularly in high-tech SMEs, that leaders improve their knowledge of their operating industries and enhance their awareness of their rivals. This results in applying suitable strategies to gain and maintain a competitive advantage and broaden their competitor and industry knowledge.

Furthermore, managers of SMEs can use this study's results to concentrate more on strategy procedures in their firms since strategic thinking, strategic planning, and organizational foresight are vital elements to achieving and maintaining a competitive advantage.

Thus, it is vital for them to avoid being trapped in their day-to-day routines and have a long-term view since disruptive changes in the future can damage their performance through not having a proactive approach towards the future. This can be achieved by having a long-term vision via practicing strategic thinking and organizational foresight and strategic planning can be a bridge from their present circumstance to their preferred set of future alternatives. Gaining and sustaining competitive advantage in a turbulent and intensely competitive market which high-tech SMEs operate in can be an intense challenge for the leaders of SMEs, but this can be tackled by practicing strategy as a strong tool of management. Strategic thinking will help them to be creative and market-oriented. Organizational foresight through environmental scanning capabilities, strategic selection and integrating capabilities can enable them to use their weak tie sources, depth of scanning, analyzing, visioning, planning, coordination, and leadership. Strategic planning via a mission statement, trend analysis, competitor analysis, long-term goals, and annual goals can bridge the present circumstance to the preferred visions of the future which are generated by strategic thinking and organizational foresight. All these procedures can help managers to have a superior performance in their firms.

7.7. Generalizability of finding

Our study was directed towards high-tech industry sectors such as Publishing of computer games, Other software publishing, Wired telecommunications activities, Wireless telecommunications activities, Satellite telecommunications activities, Other telecommunications activities,

Information technology consultancy activities, Other information technology service activities, Other information service activities, and Television programming and broadcasting activities sub-sectors. Hence, the research outcomes can be applied in the studied sectors. Because of dissimilar characteristics of various sectors, the study outcomes cannot be generalized to other SMEs.

7.8. Limitations of the study

Despite the significant contribution of this study and the theoretical and practical implications of it, this research carried unescapable limitations. Current research had been studied on the Information and communication sector and the SMEs which are operating in Publishing of computer games, Other software publishing, Wired telecommunications activities, Wireless telecommunications activities, Satellite telecommunications activities, Other telecommunications activities, Information technology consultancy activities, Other information technology service activities, Other information service activities, and Television programming and broadcasting activities sub-sectors. Hence, the focused sample of the research is the initial limitation. The methodological limitation is another limitation since the research method is a quantitative survey. Due to the huge number of SMEs and their geographically widespread area across the United Kingdom, the applied method of the study seemed justified. The survey was the method for the data collection hence the response rate was relatively low, and it was a considerable challenge to improve the response rate. Despite extensive efforts of the researcher including emailing, phoning and on-site presence many of the SMEs seemed reluctant to respond or refused to respond.

7.9. Further research suggestions

Considering the main outcomes of the research and the limitations of the study, further studies have been proposed. This study has been directed at SMEs which are operating in a specific sector

and its sub-sectors. It can be suggested to other researchers to conduct similar research on other sectors in the high-tech industry which our study's limitation could not investigate. Spreading our research to other settings could evaluate this study's robustness via generalizability of this study's outcomes to other contexts.

Moreover, the focus of this research was UK high-tech SMEs, hence the suggestion could be further investigations in other countries and regions such as the United States or European countries. There could be a pool of unrecognized areas regarding SMEs which are operating in Middle Eastern countries' industries as there is less stress on these studies. The potential outcomes of such research could be beneficial to present an extensive view towards SME performance internationally.

High-tech SMEs form an immense population in the United Kingdom and they are broadly spread across the country; using questionnaires as a mono-method in this research's data collection might not be an inclusive method. A suggestion for future studies is applying mixed methods by using interviews and questionnaires. This could improve the rate of response to provide better results. In addition, a longitudinal study that selects some SME samples and examines their performance before and after training their employees in strategic thinking, organizational foresight, and strategic planning is suggested. This could give a clear image of the impact of these management tools in related SMEs.

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