Examining the Relationship between Entrepreneurial Orientation, the Strategic Decision-Making Process and Organisational Performance: A Study of Singapore SMEs

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This thesis is presented for the degree of Doctor of Philosophy of The University of Western Australia

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2016
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Abstract

This study investigated how the various dimensions of entrepreneurial orientation (EO) influenced the relationship between the strategic decision-making process (SDMP) and performance within Singapore Small and Medium Enterprises (SMEs). The study further examined how the environment moderated the relationship between SDMP and organisational performance within Singapore SMEs. The Singapore Government highlighted the SME sector as a viable avenue of growth to the Singapore economy. However, SMEs have high failure rates. To survive and thrive in a challenging business environment, Singapore SMEs have to engage in entrepreneurial behavior, of which EO is a prominent concept.

This study defined EO as a multidimensional construct encompassing the five dimensions of innovativeness, risk-taking, proactiveness, autonomy and competitive aggressiveness. While many EO studies focused on the EO-performance relationship, this study explored the EO-SDMP relationship. The focus on the SDMP in this study was warranted as many researchers attributed the lack of emphasis on the SDMP in SMEs as a key reason behind SME failures. SDMP, based on Mintzberg’s Ten Schools of Thought, was defined as being either deliberate or emergent. The inconclusive findings of the SDMP-organisational performance relationship called into question the previous understanding of SDMP and SME performance. Performance was defined as a multi-faceted construct that included both financial and non-financial measures. Furthermore, the moderating role of the environment on the SDMP-organisational performance relationship, although explored in many studies, had not been explored within the Singapore SME context. The environment was defined as comprising of instability, complexity and munificence.

A mixed methods research design was adopted and comprised of two phases. The first phase was quantitative while the second phase was qualitative. In Phase One, data were collected from a final usable 278 SMEs using postal surveys and surveys distributed to attendees of workshops aimed at SME owner-managers. In Phase Two, 14 semi-structured interviews were conducted. Overall, the model developed and tested in the quantitative phase of this study received moderate support. However, the qualitative phase of the study was able to offer better support and a deeper understanding for the model hypothesised. This study, therefore, synthesised work from entrepreneurship and strategic management theory and linked these to performance. The conceptualisation and measurement of the various constructs used within the study were the key contributions to this study.
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<table>
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<th>Acronym</th>
<th>Description</th>
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<tbody>
<tr>
<td>ACRA</td>
<td>Accounting and Corporate Regulatory Authority</td>
</tr>
<tr>
<td>ASEAN</td>
<td>Association of Southeast Nations</td>
</tr>
<tr>
<td>ASME</td>
<td>Association of Small and Medium Enterprises</td>
</tr>
<tr>
<td>APEC</td>
<td>Asia-Pacific Economic Cooperation</td>
</tr>
<tr>
<td>CDG</td>
<td>Capability Development Grant</td>
</tr>
<tr>
<td>CEO</td>
<td>Chief Executive Officer</td>
</tr>
<tr>
<td>CPMM</td>
<td>convergent parallel mixed methods</td>
</tr>
<tr>
<td>ECB</td>
<td>European Central Bank</td>
</tr>
<tr>
<td>ECR</td>
<td>Economic Committee Report</td>
</tr>
<tr>
<td>EDB</td>
<td>Economic Development Board</td>
</tr>
<tr>
<td>EFA</td>
<td>Exploratory Factor Analysis</td>
</tr>
<tr>
<td>EO</td>
<td>Entrepreneurial Orientation</td>
</tr>
<tr>
<td>ESC</td>
<td>Economic Strategies Committee</td>
</tr>
<tr>
<td>EU</td>
<td>European Union</td>
</tr>
<tr>
<td>FDI</td>
<td>Foreign Direct Investment</td>
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<tr>
<td>GDP</td>
<td>Gross Domestic Product</td>
</tr>
<tr>
<td>GLC</td>
<td>Government Linked Company</td>
</tr>
<tr>
<td>GVA</td>
<td>Gross Value Added</td>
</tr>
<tr>
<td>HQ</td>
<td>Headquarters</td>
</tr>
<tr>
<td>IFC</td>
<td>International Finance Corporation</td>
</tr>
<tr>
<td>IMF</td>
<td>International Monetary Fund</td>
</tr>
<tr>
<td>Inc</td>
<td>Incorporated</td>
</tr>
<tr>
<td>ITP</td>
<td>Industry Transformation Programme</td>
</tr>
<tr>
<td>KPI</td>
<td>Key Performance Indicator</td>
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<tr>
<td>LEAD</td>
<td>Local Enterprise and Association Development</td>
</tr>
<tr>
<td>MAS</td>
<td>Monetary Authority of Singapore</td>
</tr>
<tr>
<td>MD</td>
<td>Managing Director</td>
</tr>
<tr>
<td>MMR</td>
<td>Mixed Methods Research</td>
</tr>
<tr>
<td>MMRA</td>
<td>Moderated Multiple Regression Analysis</td>
</tr>
<tr>
<td>MNC</td>
<td>Multi-National Corporation</td>
</tr>
<tr>
<td>MOM</td>
<td>Ministry of Manpower</td>
</tr>
<tr>
<td>MRA</td>
<td>Multiple Regression Analysis</td>
</tr>
<tr>
<td>MRAG</td>
<td>Market Readiness Assistance Grant</td>
</tr>
<tr>
<td>MTI</td>
<td>Ministry of Trade and Industry</td>
</tr>
<tr>
<td>NIC</td>
<td>Newly Industrialising Country</td>
</tr>
<tr>
<td>NIE</td>
<td>Newly Industrialised Economy</td>
</tr>
<tr>
<td>NPB</td>
<td>National Productivity Board</td>
</tr>
<tr>
<td>OECD</td>
<td>Organisation for Economic Cooperation and Development</td>
</tr>
<tr>
<td>OJT</td>
<td>On-the-Job Training</td>
</tr>
<tr>
<td>PACT</td>
<td>Partnerships for Capability Transformation</td>
</tr>
<tr>
<td>PAP</td>
<td>People’s Action Party</td>
</tr>
<tr>
<td>PGTD</td>
<td>ProQuest Global Theses Database</td>
</tr>
<tr>
<td>Abbreviation</td>
<td>Full Form</td>
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<tr>
<td>--------------</td>
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<tr>
<td>PCA</td>
<td>Principal Components Analysis</td>
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<tr>
<td>PCF</td>
<td>Participant Consent Form</td>
</tr>
<tr>
<td>PhD</td>
<td>Doctor of Philosophy</td>
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<tr>
<td>PIC</td>
<td>Productivity and Innovation Credit</td>
</tr>
<tr>
<td>PIS</td>
<td>Participant Information Sheet</td>
</tr>
<tr>
<td>PLS-SEM</td>
<td>Partial Least Squares – Structural Equation Modelling</td>
</tr>
<tr>
<td>PSB</td>
<td>Productivity and Standards Board</td>
</tr>
<tr>
<td>QC</td>
<td>Quality Control</td>
</tr>
<tr>
<td>R&amp;D</td>
<td>Research and Development</td>
</tr>
<tr>
<td>ROA</td>
<td>Return on Assets</td>
</tr>
<tr>
<td>ROI</td>
<td>Return on Investment</td>
</tr>
<tr>
<td>SDMP</td>
<td>Strategy Decision-Making Process</td>
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<tr>
<td>SME</td>
<td>Small and Medium Enterprise</td>
</tr>
<tr>
<td>SWOT</td>
<td>Strengths, Weakness, Opportunities and Threats</td>
</tr>
<tr>
<td>TAC</td>
<td>Trade Association and Chambers</td>
</tr>
<tr>
<td>UK</td>
<td>United Kingdom</td>
</tr>
<tr>
<td>UNIDO</td>
<td>United Nations Industrial Development Organisation</td>
</tr>
<tr>
<td>US</td>
<td>United States</td>
</tr>
<tr>
<td>VIF</td>
<td>Variance Inflation Factor</td>
</tr>
<tr>
<td>WDA</td>
<td>Workforce Development Authority</td>
</tr>
<tr>
<td>WTO</td>
<td>World Trade Organisation</td>
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</table>
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Embarking on this PhD has been a highly challenging journey, but deeply enriching. I realise now how blessed I am to have the following people around me to make this dream a reality.

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1. Introduction
1.1 Introduction
This strategic management research study is about Small and Medium Enterprises (SMEs) in Singapore. The purpose of this study is to investigate how the various dimensions of entrepreneurial orientation (EO) influence the relationship between the strategic decision-making process (SDMP) and organisational performance within Singapore SMEs. The study further examines how the environment moderates the relationship between SDMP and organisational performance within Singapore SMEs. More specifically, this study addresses the question of ‘What is the relationship between EO, SDMP, the environment and organisational performance within Singapore SMEs?’. This chapter provides the background of the study by providing an overview of the key constructs of this study, prior to a detailed review of these constructs in Chapters Two and Three. This is followed by the presentation of the statement of the problem, the research aims, the research approach and the intended contributions of this study. The chapter then concludes with an overview of the organisation of the entire thesis followed by a summary of the chapter. The background of this study, beginning with an overview of Singapore, follows.

1.2 Background of the Study
1.2.1 Overview of Singapore
Singapore, located in Southeast Asia with a population of 5.535 million in 2015 (SingStat, 2016d), is recognised as one of the most open, competitive and dynamic economies in the world (Anwar & Sam, 2008; Wong, Yuen, & Goldblum, 2008). Singapore has managed to attain developed economy status in one generation (Prime, 2012; The World Bank, 2013) and global city status within five decades of its independence in 1965 (Hui, 1997). Key to its rapid and sustained growth has been the business-orientated strategies undertaken by the Singapore Government (Giap & Kang, 2005; Jussawalla & Cheah, 1983), which has seen the country shift from an industrialisation sector-focused to a services sector-focused economy (Chua, 1998). However, the rapidly evolving and turbulent global environment (IMF, 2013; The World Bank, 2012; World Bank Group, 2016), and changing local dynamics resulting in rising costs and expensive labor (Economic Strategies Committee, 2010; Seow & Ho, 2015) require the Singapore Government (Government) to implement new strategic initiatives to remain competitive and oversee the next phase of growth (Giap & Kang, 2005). The Economic Strategies Committee (2010, p.i), formed to aid the Government in developing future strategies for Singapore, concurred:
... the strengths that Singapore has built up in the past will give it advantage in the decade to come, especially with the rapid expansion of urban demand in Asia. However, we must go beyond what we have developed, and do things differently. We have to grow deeper capabilities and expertise to make the most of the opportunities ahead, as well as to stay relevant as new players internationally gain competitive strength.

Key to this new strategic initiative is the development of a vibrant SME sector. The Government recognises that there is a “need to continually develop the SME segment in Singapore” (Economic Strategies Committee, 2010, p.8). The choice of Singapore in this study is appropriate, as Singapore is one of the most competitive economies in the world and a highly successful globalised city in Asia. The use of data collected from Singapore will provide benchmarking and best practice information for international business communities and emerging countries. Prior to presenting an overview of Singapore SMEs, a general discussion on SMEs is outlined next.

1.2.2 Overview of SMEs

SMEs are heterogeneous in their definition with different authors and countries adopting numerous definitions (Holm & Poulfelt, 2002; Scott & Bruce, 1987). Varying across countries, SMEs are typically associated with having a small number of employees (eg. less than 200) and small turnover (eg. less than $100 million per annum). The maintenance of a ‘healthy SME sector’ is highly important to national economies (Mazzarol & Reboud, 2006, p. 262) as more than 90% of all enterprises in most countries are SMEs and account for more than 70% of total employment opportunities (Beck, Demirgüç-Kunt, & Peria, 2008). SMEs are increasingly seen as the key generators of income, innovation and employment opportunities in national economies (Verreyenne & Meyer, 2010). SMEs are further recognised as the engines of economic growth, playing a crucial role in innovation, and entrepreneurship in global economies (Sharma, Garg, & Sharma, 2011). The International Finance Corporation, (2011, p.2) added:

These dynamic, fast-moving firms make a special contribution to local economies. It can be measured in many ways—levels of new business formation; job creation and retention; increased productivity, innovation, and value-added; or links with global value chains, to name but a few.

Despite the increasing contributions of SMEs to national economies, they have a high failure rate (Franco & Haase, 2010; Lussier & Pfeifer, 2001). Research has found that about 50% of SMEs failed in their operations within the first five years (Ahmad & Seet, 2009; Hollander, 1967; Nadu, 1978; Watson, 2003). The Small Business Association (2012) concurs that only around half of all new SMEs survive five years or more and around one-third survive 10 years or more. There are several reasons behind the high
failure rates amongst SMEs. These include a lack of management attention to strategic issues, poor decision-making and inappropriate action (Jennings & Beaver, 1995; Ng & Kee, 2012; Ropega, 2011; Yallapragada & Bhuiyan, 2011). Beaver (2003) further contended that failure rates of SMEs were more than ten times that of large organisations due to SMEs being more vulnerable to situational changes within and outside the organisations.

It is clear from the above discussion that SMEs face challenges to sustain and develop (Clarysse, Bruneel, & Wright, 2011; International Finance Corporation, 2012b). Although there is a growing recognition of the role that SMEs play in sustained economic growth, there is little systematic research in this area (Dalberg, 2011). There is therefore a need to contribute to a better understanding of the development of the SME sector (Rocha, 2012). Each time SMEs fail, there is higher unemployment, reduced revenues for governments and disappointment for stakeholders (Baptista & Preto, 2011). With Singapore also keen in developing this sector as mentioned previously in Section 1.2.1, an overview of Singapore SMEs is presented next.

1.2.3 Overview of Singapore SMEs
SMEs in Singapore are referred to as organisations with “annual sales turnover of not more than S$100 million or having an employment size of not more than 200 workers” (SPRING, 2014). The around 188,000 SMEs in Singapore in 2015 (SingStat, 2016c) are viewed as the drivers of economic growth in Singapore, with SMEs accounting for 99% of all enterprises, 50% of Gross Domestic Product (GDP) and 66% of total employment (SingStat, 2014). While the actual number of SMEs in Singapore is high, much of the nation’s economic growth over the past three decades had been supported mainly by foreign multinational corporations (MNCs) (Hock, 2002; Teng, Bhatia & Anwar, 2011; Theng & Boon, 1996). As discussed previously in Section 1.2.1 however, there has been a growing recognition of the current and potential future contribution of SMEs towards the economic growth in Singapore. Minister of State for Trade and Industry (Singapore) Teo Ser Luck (2011) added:

_The SME sector is an important pillar of Singapore’s economy. They contribute more than 50 per cent of economic output and 70 per cent of employment. The review of the development strategies for our SMEs aims to help them strengthen their business competitiveness._

A study on Singapore SMEs is justified as a review of past theses in the ProQuest Dissertations and Theses Global Database (PQDTG) and extant literature revealed that the focus of research on SMEs has been predominantly on Europe and America, with little on Asian and Singapore SMEs. This makes the understanding of the reasons
behind Singapore SME performance important to enable policymakers to undertake initiatives that enhance the success and development of such SMEs (Theng & Boon, 1996). Singapore SMEs, for instance, face an increasingly competitive environment and have limited resources (Chia, 2015g; Wong, 2015). Singapore SMEs thus have to engage in entrepreneurial behaviors in response to such challenges, as entrepreneurship is considered a principal driving force for organisational performance (Aloulou & Fayolle, 2005; Covin, Green, & Slevin, 2006). Typically, long-term survival requires organisations to engage in entrepreneurial activities to be competitive (Cruz & Nordqvist, 2012; Ribeiro Soriano, Fornoni, Arribas, & Vila, 2012). A key concept of entrepreneurship that has become a focus of scholarly attention is entrepreneurial orientation (EO), which is considered in the following section.

1.2.4 Overview of Entrepreneurial Orientation

EO differs from the concept of entrepreneurship, which essentially addresses the question of which business to start up (Covin & Slevin, 1991). EO, by contrast, is defined as the “propensity of firms to act autonomously, a willingness to innovate and take risks, and a tendency to be aggressive toward competitors and proactive relative to marketplace opportunities” (Lumpkin & Dess, 1996, p.137). EO therefore represents specific organisational-level behavior that provides for entrepreneurial actions and has been found to have significant implications for organisational performance (Covin & Wales, 2012). It has become a much explored dimension of strategic management. In relation to this, Rauch, Wiklund, Lumpkin, & Frese (2009, p. 778) added:

*The academic interest in entrepreneurship has virtually exploded in recent years. For example, the number of studies on EO and performance increased more than five-fold in the past decade compared to the previous one. At the same time, the field is struggling with establishing a common body of knowledge.*

The earliest work on EO was based on the seminal work of Miller (1983), who suggested that EO comprises of the dimensions of innovativeness, risk-taking, and proactiveness. Covin and Slevin (1989) concurred that these dimensions be aggregated together when conducting research. By contrast, Lumpkin and Dess (1996) suggested two additional dimensions, namely competitive aggressiveness and autonomy to better describe EO. They pointed out that EO was a multidimensional phenomenon, where the individual dimensions represented independent predictors that need not co-vary for an organisation.

There were several reasons for exploring EO in this study. Firstly, studies have generally found organisations adopting an EO performing better (eg. Covin & Slevin,
EO thus serves as a source of competitive advantage (Lumpkin & Dess, 1996) and is necessary for organisational success and growth (Wiklund & Shepherd, 2005). However, the study of EO has typically focused on large organisations rather than SMEs (Aloulou & Fayolle, 2005) although the influence of EO on performance is more obvious in SMEs (Rauch et al., 2009).

Secondly, there are conflicting results on the EO-organisational performance relationship. Although studies typically point to a positive EO-organisational performance relationship as discussed above, several studies have found little or no relationship between EO and organisational performance. Smart and Conant (2011), for example, did not find a significant EO-performance relationship, while Hart (1992) argued that an organisation’s entrepreneurial strategy-making mode may even lead to poor performance under certain circumstances. The conflicting results of the EO-organisational performance relationship suggested that further investigation of this relationship was warranted.

The third reason for incorporating EO in this study was that the majority of empirical testing on EO had been conducted mainly in America and Europe (Covin & Slevin, 1989; Lumpkin & Dess, 1996). These findings may not be applicable in culturally different contexts such as Singapore. Gamage and Wickramasinghe (2012, p.525) suggested that, “the western entrepreneurship paradigm does not draw on the deep-rooted settings in society and culture of many developing countries”. The use of Singapore in this study provided an alternative to “most research that takes place in the West” (Li, Su, Liu, & Li, 2011, p.257). This is also in line with the postulations of Nadkarni and Herrmann (2010) and Wales, Gupta, and Mousa (2011, p.364) who added that there is “little understanding of EO” in Southern Asia countries. The lack of empirical EO research in these geographical areas thus provided an opportunity for further exploration into EO research internationally.

Finally, most studies have concentrated on the performance implication of EO (Li et al., 2011). Besides its performance implication, EO plays critical roles in other aspects, such as its influence on strategies (Li et al., 2011). Wales et al. (2011, p.374) stated that “future research is likely to benefit from explicit consideration of the differences between processes and emergent states when empirically examining mediating relationships in the EO literature”. In relation to this, the relationship between EO and strategy is therefore key (Lumpkin & Dess, 1996). The link between EO and the SDMP is discussed in turn.
1.2.5 The Link between Entrepreneurial Orientation and Strategic Decision-Making Processes

The fields of entrepreneurship and strategic management have increasingly integrated for many reasons. Firstly, the dimensions of EO have emerged in both the strategic management and entrepreneurship literature (Morris & Kuratko, 2002) and organisational performance is central to both fields (Ireland, Hitt, & Sirmon, 2003). Next, EO serves as a core element of strategic management (McGrath & MacMillan, 2000) and influences strategic decisions (Frese, Brantjes, & Hoorn, 2002) and organisational performance (Becherer & Maurer, 1999). For example, SMEs have to adopt entrepreneurial behavior when formulating strategies to survive in a competitive business environment (Covin & Slevin, 1989). Entrepreneurial organisations thus engage in SDMPs that enable the formulation and implementation of strategies to enhance organisational performance (Wheelen & Hunger, 2011).

In relation to the above discussion, it has been further suggested that the EO-organisational performance relationship is mediated or moderated by diverse variables (Messersmith & Wales, 2011; Wales et al., 2011). It is therefore argued in this study that the SDMP of an organisation mediates the EO-performance relationship as organisations with a greater EO would tend to develop certain types of strategies that influence performance differently (Moreno & Casillas, 2008). Therefore, the EO-SDMP relationship is key to understanding SME performance (Lumpkin & Dess, 1996) as it would help to advance the understanding of the transformation of EO into organisational performance (Wales et al., 2011). Lechner and Gudmundsson (2014, p. 54) added that future research “investigate the different configurations of EO and their relationships with strategy and firm performance”. An overview of the SDMP is presented next.

1.2.6 Overview of Strategic Decision-Making Processes in SMEs

The development of an effective strategy for the survival and continuity of a business is especially critical for SMEs as organisational survival is lowest when organisations are small and young (Thornhill & Amit, 2003). The various definitions of strategy generally point towards it being described as an approach to attain organisational goals and success in the long run (Kraus, Reiche, & Reschke, 2007). It is often referred to as being a ‘dynamic’ (Ensign, 2008, p. 25), ‘continuous’ (Pettigrew, 1977, p. 78) process and a primary element in any growing venture (Beliveau, Bernstein, & O’Neill, 1994). Schwenk (1984, p.111) defined the SDMP as involving “the activities of goal formulation, problem identification, alternatives generation, and evaluation/selection”. The SDMP is integral to the organisation’s strategy, and has long been of interest to
researchers (Ireland & Miller, 2004). While there are many perspectives of strategy available (eg. Miles, Snow, Meyer, & Coleman, 1978; Miller, 1983), Mintzberg’s (1990b) ten schools of thought are widely accepted. The ten schools of thought are categorised into the three core areas of prescriptive, descriptive and mixed approaches as illustrated in Figure 1 below.

**Figure 1: Approaches of the Ten Schools of Thought**

![Diagram of 10 Schools of Thought](image)

*Adapted from:* (Mintzberg, 1990b)

This study focused on the design, planning and positioning schools of thought within the prescriptive approaches and the learning school of thought within the descriptive approaches. The prescriptive schools of thought were chosen for this study as they indicate the presence of a deliberate SDMP within Singapore SMEs. The deliberate SDMP regards strategy as a “rational, two-dimensional process of formulation and implementation” (Beaver & Prince, 2004, p.37). Alternatively, the learning school of thought was chosen for this study as it represents the presence of an emergent SDMP amongst Singapore SMEs. Mintzberg (1994a) referred to the emergent SDMP as being formed rather than formulated, where strategies “can develop inadvertently, without the conscious intention of senior management, often through a process of learning” (p.111). This school of thought represents a more incremental approach to strategy where an organisation constantly shifts and changes its strategic position as it learns and adapts to past behaviors (Mintzberg, 1990b).
Defining strategy as we do enables us to consider both sides of the strategy formation coin: strategies as intended, a priori guidelines as well as strategies as evolved, a posteriori consistencies in decisional behavior. In other words, the strategy-maker may formulate a strategy through a conscious process before he makes specific decisions, or a strategy may form gradually, perhaps unintentionally, as he makes his decisions one by one.

Mintzberg (1978, p.935)

The study of the nature of the SDMP within Singapore SMEs is justified for several reasons. Firstly, there is a lack of empirical data on SDMPs within SMEs (Frese et al., 2002; Gibson & Cassar, 2002). While the literature on business strategy is growing, very little related to SMEs (Beaver & Prince, 2004; Gruber, 2007), with research on SME strategy described as being ‘woefully inadequate’ (Robinson & Pearce, 1984, p.128). Many researchers have attributed this lack of emphasis on the SDMP in SMEs as a key reason behind SME failures (eg., Gibb & Scott, 1985; Verreynne & Meyer, 2010). Wheelwright (1971, p.51), for example, advocated that SMEs cannot “achieve satisfactory profitability simply by meeting its competition head-on”.

The second reason justifying the study of the SDMP within SMEs is that the predominant focus on previous studies has been on firstly determining the existence, or absence, of formal strategy processes in SMEs, and secondly, in investigating their relationship with organisational performance (Bracker, Keats, & Pearson, 1988; Robinson & Pearce, 1984; Rue & Ibrahim, 1998). There is, however, little known on the actual nature of SDMPs in SMEs (Frese et al., 2002; Gibson & Cassar, 2002). Research on the nature of the SDMP and the factors that affect it may enable the better understanding and improving of the processes (Brews & Hunt, 1999) and the environments in which SMEs operate as the business environment changes (Schwenk, 1995).

In relation to the nature of the SDMP in organisations as discussed above, studies suggest that the number of employees in an organisation is an important determinant of an organisation’s SDMP (Matthews & Scott, 1995). Studies point to a more deliberate SDMP in large organisations, and a more emergent SDMP process in SMEs due to their reduced access to human and financial capital and insufficiently developed administration (Beaver & Prince, 2004). Mintzberg (1994b) concurred that the SDMP in SMEs were highly emergent, as they continually adapted to changes. By contrast, Wiesner and Millett (2012) found the SDMP in Australian SMEs to be deliberate. It is thus important to understand the SDMP in SMEs as it drives organisational performance (Peel & Bridge, 1998) and decision-making varies strongly between
deliberate and emergent approaches (Baird, Lyles, & Orris, 1994). As the findings of the deliberate and emergent nature of the SDMP in SMEs are contradictory, this remains a largely under-researched area. The lack of empirical studies on the strategy processes of SMEs therefore further justified a detailed study in this area.

Finally, the research on SDMPs in SMEs had focused predominantly on American eg. (Bracker et al., 1988; Sexton & Van Auken, 1982) and European countries (Gibb & Scott, 1985; Leitner & Güldenberg, 2010). Despite the informative nature of such studies, there is a lack of understanding on the strategy process in SMEs in Asia, particularly within the Singapore context (Ghosh, Liang, Meng, & Chan, 2001; Sum, Kow, & Chen, 2004). Regardless of the paradigms under which SDMPs are studied, the literature suggested that environmental factors are a fundamental aspect of the SDMP in organisations (Dean & Sharfman, 1993; Fredrickson & Iaquinto, 1989; Hough & White, 2003). The turbulent and dynamic nature of the current global business environment requires organisations to deal with shortened business and product life cycles (Hamel, 2000). Effective SDMPs are therefore critical for the success of businesses in light of a continually changing and challenging business environment (Thornhill & Amit, 2003), which is explored next.

1.2.7 Overview of the Environment
Porter (1980) viewed the external environment as a very broad concept that encompasses both social as well as economic forces where the collective strength of these forces determines the ultimate profit potential in the industry. The environment of an organisation is composed of all the forces external to the organisation that directly or indirectly influence its operations and that, in turn, may be influenced by the organisation (Thompson, 1967). Organisations face an increasingly dynamic, complex, and unpredictable environment that has significant impacts on overall organisational performance (Ward & Lewandowska, 2005). Organisations face increasing uncertainty about future profit streams from existing operations and have to constantly seek new opportunities (Wiklund & Shepherd, 2005). Organisations, regardless of size and strategic orientation, thus have to seek innovative ways of conducting business to remain successful (Lumpkin & Dess, 1996).

Entrepreneurial firms are often found in dynamic and hostile environments because their venturesome managers prefer rapidly growing and opportuneul settings; settings which may have high risks as well as high rewards.

Miller & Friesen (1982, p.6)
Given the influence of the external environment on organisational strategy and subsequent performance, organisations may pursue more proactive, innovative, riskier and aggressive strategies as environmental uncertainty increases (Dess, Lumpkin, & Covin, 1997). In the existing literature, the external environment has also been conceptualised in a number of ways (Aloulou & Fayolle, 2005) with turbulence (Khandwalla, 1977); hostility, heterogeneity, and dynamism (Miller, 1983); volatility (McKee, Varadarajan, & Pride, 1989); munificence (Dess & Beard, 1984) and complexity (Aldrich & Wiedenmayer, 1993) being some of the most common. However, the various terms used to categorise the environment tend to fall into the three major categories of instability, complexity and munificence (Dess & Beard, 1984).

Several studies exploring the moderating role of the environment on organisational performance, have concluded that an organisation’s external environment had a significant impact on the SDMP-performance relationship (Lumpkin & Dess, 1996; Zahra & Covin, 1995). Adopting an appropriate SDMP thus enables organisations to perform better in such dynamic environments. As the moderating role of the environment on the SDMP-organisational performance relationship within Singapore SMEs has not been explored previously in any known study, the opportunity to explore such a gap exists. This makes the study of how the environment moderated the relationship between the SDMP and organisational performance within the Singapore SME context important. Discussed next is organisational performance.

1.2.8 Overview of Performance

Performance relates to the “success within and across organisations” and it is essential to accurately describe performance to effectively measure it (Bracker et al., 1988, p.595). Business performance has been conventionally measured from an accounting perspective, with measures such as profitability and return on investment (Jennings & Seaman, 1994). However, many researchers have criticised the validity of such accounting measures as the indicators of business performance (Peel & Bridge, 1998) as short-term profits can be enhanced at the expense of long-term growth. Performance can thus be better defined as a multi-faceted construct that includes both financial and non-financial measures (Lumpkin & Dess, 1996; Walker & Brown, 2004) that lead to the creation of a sustainable competitive advantage for an organisation (Porter, 1985). Multiple measures enable a broader, more comprehensive conceptualisation of organisational performance (Murphy, Trailer, & Hill, 1996). Constructs commonly used in studies to define performance included financial measures such as return on assets (ROA), return on investments (ROI) and profitability as well as non-financial measures such as quality, image and perceived satisfaction of
stakeholders.

Many studies have found that formal strategy processes result in higher organisational performance (Hart, 1991). However, the impact of SDMPs on organisational performance has been widely investigated in large organisations and to a lesser extent in SMEs (Verreynne & Meyer, 2010). It is argued that the replication of deliberate strategies employed in large organisations is difficult in SMEs (Beaver & Prince, 2004). As such, the adoption of an emergent SDMP in SMEs is supported by many studies that have found no apparent relationship between a deliberate strategy approach and performance in SMEs (Beaver, 2007; Mazzarol, 2005; Orpen, 1985). Bailey, Johnson, and Daniels (2000) further hypothesised that incremental, or emergent, strategy processes result in higher organisation performance. The inconclusive findings on the determinants of organisational performance therefore warranted a deeper exploration of the area. Presented next is the problem statement of this study.

1.3 Problem Statement

The Government, despite the unprecedented growth of Singapore’s economy over the past five decades, has recognised that new strategies have to be developed to ensure the continued growth and development of the country (discussed in Section 1.2.1). The Government has highlighted the SME sector as a viable avenue of growth, with Singapore SMEs having the potential to contribute significantly to the Singapore economy. The high failure rate typically associated with SMEs (discussed in Section 1.2.2), however, necessitate the need to study the factors that impact on the organisational performance of SMEs. To survive and thrive in a challenging business environment, it is argued that Singapore SMEs have to engage in entrepreneurial behaviour.

One prominent concept in entrepreneurship literature is EO (discussed in Section 1.2.4). It is argued that SMEs adopting an EO might adopt particular SDMPs within their organisations. Very few empirical studies have examined the congruence or fit of strategy and entrepreneurship (Thompson, 1999; Wiklund & Shepherd, 2005). This study will integrate the strategic and entrepreneurial initiatives, which is in line with Lechner and Gudmundsson’s (2014, p.54) suggestions that future research “investigate the different configurations of EO and their relationships with strategy and firm performance”. Moreover, there has been no known study that explored the EO-SDMP relationship in SMEs within the Singapore context.

Although the five dimensions of EO have been developed in the literature (Dess &
Lumpkin, 2005; Lumpkin & Dess, 1996), the majority of studies only examined three of the five dimensions, namely innovativeness, proactiveness and risk-taking (Hughes & Morgan, 2007). These studies therefore only provided a partial analysis of EO, whereas this study, in investigating all five dimensions of EO, will provide a more comprehensive examination of EO. This is in line with the recommendations of (Wales et al., 2011, p.375) who stated that, “substantial opportunities exist for considerable advancement in understanding the individual influence of the dimensions of EO”.

In addition to the EO-SDMP relationship discussed above, this study will further explore the SDMP-organisational performance relationship. The SDMP-organisational performance relationship has provided mixed results, as discussed in Section 1.2.6. The inconclusive findings of the SDMP-organisational performance relationship thus call into question the previous understanding of SDMP and the performance of SMEs. Furthermore, the moderating role of the environment on the SDMP-organisational performance relationship, although explored in many studies as discussed in Section 1.2.7, had not been explored within the Singapore SME context. In sum, this study will enable the better understanding of the EO and nature of the SDMP in SMEs, particularly in Singapore, and the link to organisational performance and the moderating role of the environment.

1.4 Research Aims
The research aims of this study are four-fold. The following briefly describes the aims of this study:

1. Investigate how strategy happens in Singapore SMEs i.e. analyse whether the strategy decision-making process in Singapore SMEs is deliberate and/or emergent.

2. Assess whether entrepreneurial orientation determines if the strategy decision-making process within Singapore SMEs is deliberate and/or emergent.

3. Investigate the relationship between the strategy decision-making process of Singapore SMEs and organisational performance.

4. Determine how the environment has a moderating effect on the relationship between the strategy decision-making process of Singapore SMEs and organisational performance.

1.5 Research Approach
This study investigated the role of EO, the SDMP, and the environment on the performance of Singapore SMEs. A mixed-methods study incorporating both quantitative and qualitative methods was considered appropriate in addressing the research aims. The use of mixed-methods research enabled the researcher to
generalise the data derived from the quantitative approach. In addition, the qualitative approach facilitated the generation of ‘rich’ data to gain a deeper understanding of the constructs being studied (Teddlie & Tashakkori, 2009). The study thus comprised of two phases. Phase One adopted a quantitative approach, while Phase Two adopted a qualitative approach. In Phase One, questionnaires were distributed to owners/directors of Singapore SMEs in two ways. Firstly, SME owners/directors were identified from the SME 1000 database. Questionnaires were then mailed to all companies in the database. Next, questionnaires were also distributed at training workshops aimed at owners-directors of Singapore SMEs. The quantitative data were analysed using PLS-SEM modeling techniques. In Phase Two, in-depth semi-structured interviews were conducted with fourteen of the SME owners/directors who responded in Phase One and had expressed their interest in participating in such interviews. The NVivo software was used to analyse this qualitative data.

1.6 Intended Contributions of the Study

It was intended that this study developed and tested a theoretical model combining strategy elements in a totality that had not been done before. It was further intended that this study is of interest to both academics and practitioners alike. In terms of theoretical contributions, the existing work on SMEs, inclusive of Singapore SMEs, is limited and it was intended that this study increased the understanding of Singapore SME approaches to deliberate and emergent strategy. Harrington, Lemak, Reed and Kendall (2004, p.17) noted that whether “strategy is a rational and comprehensive process (deliberate) or a more incremental and trial-and-error type of approach (emergent) remains unanswered because the results of empirical studies are mixed”.

Another intended contribution was that this study was based on four of Mintzberg’s (1990) Ten School’s of Thought as opposed to other widely used approaches to strategy in the extant literature (eg. Miles et al., 1978; Porter, 1980). This study was also one of few known attempts to bring together in one study an examination of the four constructs of EO, SDMP, Performance and the Environment. This was important as it demonstrated how EO influenced the SDMP-organisational performance relationship as well as studied how the environment moderated this relationship. To the literature, it was intended that the findings of this study added validation of the EO-SDMP relationship.

In addition, it was intended that the findings of this study introduced new evidence on the relationship between a company’s SDMP and performance, as moderated by the environment. By examining the moderating role of the environment, it was intended
that this study enhanced the understanding of the effects of different environments on the SDMP–performance relationship. Lastly, this study combined both quantitative and qualitative methodologies to achieve a complete, realistic and robust portrayal of the SDMP of Singapore SMEs. It was intended that such an integrated approach helped to better comprehend the general and local characteristics of the SDMP within Singapore SMEs.

In terms of managerial contributions, it was intended that this study improved awareness and provided valuable information to SME owner-managers and senior executives in developing best practices for strategic process activities in SMEs (Wiesner & Millett, 2012). This was particularly important as SMEs are poised to play a key role in the future growth of the Singapore economy (Economic Strategies Committee, 2010). It was further intended that this study helped policy makers better understand and subsequently develop the SME sector. It was intended that a better understanding of strategy processes in SMEs helped in the development of tools that suit SMEs’ unique strategy process and helped in their continued development (Beaver & Prince, 2004). In sum, it was intended that the findings of this study provided significant contributions for future research in the fields of EO and SDMP, which can be used to develop theories linking the findings with theoretical and managerial practices.

1.7 Thesis Structure
This thesis is organised into eight chapters. This chapter primarily outlined the background, approach, aims and intended contributions of the study. Chapter Two discusses Singapore and its SME sector. It describes the growth of the Singapore economy as well as the growing importance of the SME sector to the economy. Chapter Three presents a detailed academic literature review relevant to this study. The literature review comprises of an overview of SMEs, EO, SDMP, the environment and organisational performance. Following this, Chapter Four presents the conceptual development and presents a detailed overview of the hypotheses tested in this study and how they were developed. Chapter Five presents the methodology section, which describes and justifies how the quantitative and qualitative data were collected and analysed in this study. Subsequent Chapters Six and Seven present the findings of the analysis of the quantitative and qualitative data respectively. Chapter Eight concludes the study by providing a summary discussion of the key findings and discussing the limitations for this study as well as recommendations for future research.
1.8 Summary
In summary, this chapter provided an introduction of the research topic and a discussion on the importance of investigating the key constructs of this study: EO, SDMP, the environment and organisational performance within Singapore SMEs. The chapter further presented the research aims of this study. Also discussed in this chapter was the research approach adopted, the intended contributions of the study as well as the structure to be adopted for the entire thesis. The next chapter presents the detailed review of Singapore and the SME sector in Singapore.
2. Review of Singapore

2.1 Introduction

The previous chapter presented an overview of this study. It outlined the background, statement of the problem, research aims and approach as well as the gaps of knowledge in the extant literature relating to the constructs that are addressed in this study. The intended contributions of the study were also highlighted.

This chapter provides a detailed discussion on Singapore, its economic development and its economic polices aimed at developing Singapore SMEs. This chapter aims to further review the important aspects of SMEs within Singapore and discuss the challenges currently faced by the Singapore economy. The chapter begins with a discussion on Singapore in Section 2.2. Next, Sections 2.3 and 2.4 then present the economic development and economic policies of the Government respectively. This is followed by Section 2.5, which outlines the current SME-centered Government polices undertaken in building the SME sector in Singapore. Section 2.6 reviews SMEs in Singapore, particularly in relation to its definition and contributions within the Singapore context. The current challenges of the Singapore economy are then presented in Section 2.7. The chapter then concludes with a summary of the chapter.

2.2 Growth of Singapore

As previously discussed in Section 1.2.1, Singapore has grown from a third-world nation to a global city in less than five decades of its independence. It is known as “one of the world’s great economic success stories” (Mahbubani, 2008, p. 54) and is ranked as the top city in Asia and third globally in relation to high education, mobility, science, broadband and technology (Williams, 2015). This is a great achievement given that Singapore had a land area of just 719.1 sq km in 2015 (SingStat, 2016b) and has no natural resources. Sir Stamford Raffles founded Singapore in 1819 and recognised its strategic position in the highly profitable international trade route between Europe and Asia (Yue, 2005). He established Singapore as the headquarters of the Colonial Government’s operations in Southeast Asia and oversaw its rapid development from a small fishing village to a major trading port within the region (Chua, 1998).

Much of Singapore’s development in the modern era, however, is attributed to its first Prime Minister Lee Kuan Yew (Mok, 2015b; OECD, 2011; Vietor & Thompson, 2003) and his People’s Action Party (PAP), who oversaw its independence and rise to becoming an economic powerhouse after its separation from Malaysia. Lee Kuan Yew (1998, p.22) himself stated that:
“Some countries are born independent. Some achieve independence. Singapore had independence thrust upon it.”

Despite the difficulties surrounding its independence, the PAP government recorded a period of unprecedented growth of 8% that enabled it to be one of the richest countries in the world (The World Bank, 2016b). Singapore created significant competitive advantages for itself by investing in a highly skilled workforce, building a world-class transportation and telecommunications infrastructure and developing extensive air, sea and telecommunications networks linking Singapore with major cities around the world (Kapur, 1983; Yue, 2005). The strength of the Singapore economy is further exemplified in its low unemployment, diversified economy entailing manufacturing and services, high savings and investment rates, accumulation of huge foreign exchange reserves and appreciating exchange rate (Lim, 1983; Low, 2001; Yue, 2005). The following section provides a review of the economic development of Singapore.

2.3 Economic Development of Singapore

Singapore is regarded as the most important city in Southeast Asia, serving as a highly connected gateway city, international financial center and regional command center (Sim, Ong, Agarwal, Parsa, & Keivani, 2003). It is one of the most open, competitive and dynamic economies in the world (The World Bank, 2013). Singapore possesses a high literacy rate of 97%. Its per capita income of S$72,711 in 2015 (SingStat, 2016b) is also one of the highest in Asia (Mok, 2015a). Singapore focused on creating a highly skilled and educated workforce proficient in the English language and the provision of excellent infrastructure, which further contributed to economic efficiency and in facilitating the operations of foreign Multi-National Corporations (MNCs) in Singapore and linking Singapore effectively with the global economy (Yue, 2005). In terms of labor participation, Singapore has one of the lowest unemployment rates in the world at 1.9% for 2015 (MinistryofManpower, 2016; Seow, 2015a). In the decade leading up to 2012, Singapore posted lower unemployment rates than those achieved by the top three global economies (United States, China and Japan) and the rest of the world (World Bank Indicators database, 2015c).

Figure 2 illustrates Singapore’s rapid rate of economic development by comparing its annual gross domestic product (GDP) growth rates against that of the rest of the world over the decade from 2003 to 2013. In each of the years during the period illustrated in Figure 2, Singapore outperformed the rest of the world.
Yusuf and Nabeshima (2012) further noted that while developed economies averaged growth rates of 2.4% and developing economies averaged 4.7% between the years 1990 to 2008, Singapore averaged 6.6% during the same period (The World Bank, 2013). The strength of the Singapore economy was evident even during times of economic uncertainty. Although the turbulent global environment from 2008 – 2012 (IMF, 2013; TheWorldBank, 2012) had resulted in reduced annual GDP growth figures averaging 4.44% in Singapore during this period, it was still able to post higher growth rates than the 1.64% GDP growth rate achieved by the rest of the world (The World Bank’s Indicator Database, 2015a). This enabled Singapore to progress rapidly from a third world nation in the 1960s to a Newly Industrialising Country (NIC) in the 1970s, a Newly Industrialised Economy (NIE) in the 1980s before attaining developed economy status in the 1990s and finally transforming into a global city in the new millennium (Chua, 1998; Sim et al., 2003).
In 2014, Singapore was ranked as the 36th biggest economy in the world (The World Bank’s Indicator Database, 2016a). The World Trade Organisation (2015b) further placed Singapore with the highest trade to GDP ratio in the world, and its current account balance is one of the biggest by world standards, reaching US$58.771 billion in 2014. Moreover, Singapore ranked in pole position amongst global economies in terms of ease of doing business in 2016 (The World Bank, 2016a). It is also ranked as the 2nd freest economy in the world (The Heritage Foundation, 2016). In terms of world trade, the World Trade Organisation (2016) ranked Singapore at 14th globally in 2014. In addition, the World Economic Forum (2016) ranked Singapore as the second most competitive global economy. Singapore’s high competitiveness ranking was largely due to the economic openness achieved by its focus on free trade, creating a conducive business environment by ensuring the ease of business, competitive taxes and providing a safe and corruption free business environment (Economic Development Board, 2016; Lim, 1983; Sim et al., 2003). This has enabled Singapore to be successful in attracting significant foreign direct investments (FDI), which totaled S$1,024.6 billion in 2014 (SingStat, 2016b).

Finally, the Singapore economy is highly diversified. The biggest sector is the services sector contributing almost three quarters of the GDP at 70.4% and employing three quarters of the active population, while the industrial sector represented a quarter of the GDP at 25% (Ministry of Trade and Industry, 2015b). The industrial sector in Singapore is focused on digital and electronics manufacturing, petroleum and the petrochemical industries. The services sector, in comparison, comprises of the wholesale and retail sector, business services, transport and communication and financial services (Ministry of Trade and Industry, 2015b). Within the services sector, Singapore’s banking system is considered to be among the strongest in the world.

The previous discussion has shown the progress of the Singapore economy. As discussed previously in Section 1.2.1, key to the rapid and sustained growth of Singapore has been the role of the Government in adopting various business-orientated strategies. The quality of economic management and political governance has been a significant factor in Singapore’s economic success (Yue, 2005). A review of the Government’s business orientated strategies and economic policies are presented next.
2.4 Singapore Government’s Economic Policies

The Government has played an active role in shaping the policies that influenced Singapore’s growth. The Government, for example, has continually kept pace with the changing nature of the global economy by introducing economic reforms at various stages of Singapore’s growth (Chua, 1998; Hui, 1997). As a result, Singapore’s industrial structure has progressed from labor-intensive export manufacturing to capital- and technology-intensive manufacturing and high value added services (Yue, 2005). Accordingly, the share of the services sector of Singapore’s nominal GDP has increased over the last decade from 64% in 2003 to 70% in 2013 (Zaid, 2015). An overview of Singapore’s Government-led economic progression is presented in Table 1.

Table 1 shows that over the years, the Government has emphasised free-market policies throughout the various economic reforms introduced. The Government developed a highly productive, skilled and educated workforce and adopted an open migration policy to attract talent from the world over. The Government was therefore heavily interventionist (Hui, 1997; Lim, 1983). Huff (1995) referred to this innovative mixed economic system as ‘Singapore Inc’, where the country was run more as a corporation than a country. The government thus assumed a proactive entrepreneurial role to compensate for the lack of private sector funds and expertise while safeguarding the country against extraneous shocks from the global market (Ramirez & Tan, 2004). It actively assisted businesses by providing a conducive business environment and infrastructure, such as facilities and services, for the growth and development of businesses (Liang, 2007; Teng, 2011).

From the above discussion, it can be see that the highly participative nature of the Government in Singapore’s development enabled it to be forward thinking in identifying sectors in which to lay the foundations for future growth. This helped Singapore to grow and became the preferred destination for international investors seeking to expand into the Asia market (Sim et al., 2003; Yeung, 1998).
Table 1: Economic Progression of Singapore

<table>
<thead>
<tr>
<th>Period</th>
<th>Economic Strategy</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Pre-1960s</strong></td>
<td>• Economic pillars were being a trading port and a regional military base</td>
</tr>
</tbody>
</table>
| 1960s | • Prior to independence, the Government adopted the import substitution strategy given the large combined domestic market of Singapore and Malaysia  
• After independence, the Government opened up its economy and adopted the export orientation strategy to attract FDIs.  
• The Government focused on creating Government-Linked Corporations (GLCs) and attracting labor intensive MNCs to ‘spearhead’ the industrialisation initiative.  
• GLCs and MNCs served as economic pillars and created jobs |
| 1970s | • Singapore went through a restructuring strategy moving away from labor-intensive operations to capital-intensive methods of production. |
| 1980s | • Singapore moved towards high value added industries in the electronics, computing-related and chemical industries.  
• The Economic Committee was established in 1985 to identify new directions for future growth. Focus given to local enterprises particularly the SMEs.  
• The 1986 Economic Committee Report (ECR) recommended the shift to becoming an international business centre and to attract foreign MNCs to establish operational HQs in Singapore.  
• Singapore also became a regional services hub in trade, finance, and transport and communications.  
• SME Master Plan in 1988 resulted in a shift from the labor-intensive industrialisation programme to a more globalised, diversified and predominantly service-orientated economy |
| 1990s | • Developed the life sciences industry, which saw strong investments from world-class MNCs like Apple Computer, Seagate Technology and IBM.  
• Developed Singapore as a “total business centre” where high tech and high value added manufacturing and services serve as twin engines of growth.  
• Launched Industry 21, a 10-year plan to develop Singapore into a global hub of knowledge-driven industries in manufacturing and traded services with an emphasis on technology, innovation, and capabilities.  
• Recognised that local SMEs lacked vibrancy, and that the 1988 SME Master Plan had sought to upgrade SMEs. The 2000 SME 21 Report further updated efforts to build up capability of SMEs. |
| 2003 | • Reiterated that the manufacturing and service sectors would remain the twin engines of growth  
• Recommended that Singapore further upgrades trading and logistics, information technology, financial services and tourism to remain competitive and focus on becoming a regional hub in new areas such as healthcare, education and creative industries. |
| 2010 | • Create and innovative economy that attract MNCs as well as deepen capabilities amongst local companies to seize overseas opportunities.  
• Establish a distinctive global city by attracting highly talented, capable and entrepreneurial people. |

Adapted from: (Chua, 1998; Liang, 2007; Ministry of Trade and Industry, 2016; Sim et al., 2003; Yue, 2005)

The Singapore Government, despite its past successes, has realised that it can no longer compete in the regional and global economy on cost and efficiency alone in light of an increasingly competitive and turbulent business environment. Deputy Prime Minister (Singapore) Tharman Shanmugaratnam (2015a, p.4), in concurrence, stated in the 2015 National Budget address that:
The global outlook for 2015 is uncertain. The US continues to recover. Europe’s growth remains weak, and the Eurozone is facing new uncertainties. Emerging Asia, including our own region, is seeing the effects of a slowdown in China. The current global environment is not, however, just a temporary challenge. We may see prolonged sluggish growth in the advanced world, as well as continued consolidation in China’s growth as it reforms and rebalances its economy.

The competitive and turbulent business environment discussed above has resulted in the Government advancing to the stage of innovation and creativity to remain competitive (Skilling, 2015c; Yue, 2005). The shift in strategy towards innovation and creativity has resulted in the Government becoming increasingly focused on developing Singapore SMEs (Lee, 2015a; Lim, 2015). This is in contrast to much of Singapore’s economic growth over the past three decades, which had been supported mainly by foreign MNCs (Hock, 2002; Teng, 2011; Theng & Boon, 1996). This was due in large part to economic policy measures in Singapore being geared towards the facilitation of such MNCs in the past (OECD, 2013). The above discussion supports the focus on the SDMP, EO and performance of Singapore SMEs in this study. A review of the Government’s shift towards SME-centered policies over the years is presented in the following section.

2.5 Singapore Government’s SME-Centred Policies

As discussed previously in Section 2.4, Singapore’s economic policies have traditionally focused on attracting FDI from foreign MNCs (Yeung, 1998). This was architected by the then-finance minister Dr Goh Keng Swee, where government policies supported the export manufacturing activities of the foreign MNCs with little emphasis on developing Singapore SMEs (Liang, 2007; Yeung, 1998). By successfully attracting foreign investments into Singapore, the government was able to generate employment and help local industries gain the technical and capital knowledge and skills for industrialisation (Ngiam, 2011).

The economic recession in 1985 caused the Government to review its economic directions as it recognised the negative impacts of being overly dependent on foreign MNCs and the lack of local entrepreneurship (Liang, 2007; Yue, 2005). In view of this, the Government adopted several strategies to develop Singapore SMEs, the highlights of which were the formulation of two SME Masterplans in 1989 and 2001 respectively to further develop Singapore SMEs. In 2009, the Government established the Economic Strategies Committee (ESC) to develop strategies for Singapore to achieve sustained growth from 2010 - 2015. This ESC recommended a three-prong strategy to restructure the Singapore economy, which included (1) the development of the skills of its people, (2) attracting talented entrepreneurs from the world over and (3) deepening
of capabilities among Singapore companies. With the third strategy in particular, it was recognised that there was considerable opportunity over the next 5 to 10 years to facilitate local SMEs to grow into industry leaders in Asia (Economic Strategies Committee, 2010). To assist local SMEs, the Government announced several initiatives in 2011 to help SMEs offset higher business costs (Ministry of Trade and Industry, 2013). These initiatives, summarised in Table 2, were based on three focus areas highlighting a greater government support to boost SME capabilities, seizing opportunities for growth and creating a more conducive business environment.

Table 2: Government Support Schemes for SME Growth in 2011

<table>
<thead>
<tr>
<th>Focus Areas</th>
<th>Singapore Government Support Schemes</th>
</tr>
</thead>
</table>
| Greater Government Support to Boost SME Capabilities | • The Productivity and Innovation Credit (PIC) Scheme enables SMEs to receive cash bonuses equivalent to the amount spent to defray the cost of implementing productivity improvements.  
• SMEs that innovate and develop new products can claim 400% tax rebate and/or 60% cash payment, leading to lower costs of innovation.  
• To encourage industry collaboration for productivity improvements, the Government will work with industry players and partners such as Trade Association and Chambers (TACs).  
• SME Talent Programme targeting tertiary students to enable SMEs to attract and recruit local talents.                                                                                                                                                                                                                      |
| Seizing Opportunities for Growth                 | • SMEs looking to grow their business overseas can get easier and faster help with the Market Readiness Assistance Grant (MRAG).  
• SMEs will get greater support for business leads overseas through the Local Enterprise and Association Development Programme (LEAD).  
• Partnerships for Capability Transformation (PACT) scheme to support collaboration projects between SMEs and large enterprises.  
• The Government to support and extend outreach to high-growth enterprises to help them become the next Singapore-grown MNCs of the future.                                                                                                                                                                                                 |
| A More Conducive Business Environment            | • The various grant programmes offered by the Government to be streamlined into one main Capability Development Grant (CDG).  
• Creation of one-stop SME Centres for SMEs to access information, seek advice on a wide range of assistance programmes from relevant government agencies and private-sector organisations.                                                                                                                                                                                                 |

Source: (Ministry of Trade and Industry, 2013)

The government’s schemes on promoting local entrepreneurship now rest with SPRING Singapore, which (1) works with tertiary institutions in Singapore to provide training to key people in SMEs, (2) provides grants and finance options to innovative Singapore-based companies and (3) oversees a multi-agency network comprising of various ministries, statutory boards and institutions working on various means of communication, to deliver information to SMEs (SPRING, 2016). The number of SMEs
using the various support schemes offered by SPRING rose from 3,000 in 2013 to 9,000 in 2014 (Wong, 2015b). A private sector initiative, the Association of Small and Medium Enterprises (ASME), was also set up to develop entrepreneurship, while a host of government assistance programs in Singapore that address the needs of SMEs can be found at a website created for the purpose: EnterpriseOne (www.enterpriseone.gov.sg) (Chew & Chew, 2008).

Intent on becoming the Asia’s innovation capital, the Government has further allocated S$16.1 billion under its five-year research, Innovation and Expertise Plan for the period 2011-2015 (Zaid, 2015). In line with this, in his 2015 Budget report, Deputy Prime Minister Tharman Shanmugaratnam announced the continuation of the restructuring policies of the economy as set out in 2010. Shanmugaratnam (2015a) added that that the Government aimed at building the next ‘Frontier as an economy’ (p.10), and that the Government aimed to further support the next generation of Singapore businesses by strengthening innovation (p.13):

“... we shall make innovation pervasive in our economy, and take comfortable steps to shift from value-adding to value-creating. We have to bring new ideas to the market. … We will give stronger support to SMEs who innovate and go beyond the norm.”

In order to strengthen innovation, the Government increased grant support for SMEs that innovated and supported companies in creating and capturing greater value for research and development (R&D) by investing S$1 billion into the National Research Fund. The grant also supported innovation by catalysing financing to ensure that the better companies have access to capital. A venture debt risk-sharing program with selected financial institutions was also announced to provide high growth companies with an alternative to equity financing and traditional bank loans (Shanmugaratnam, 2015a).

The above strategies, together with low taxes, transparency and an entrepreneurial culture initiated by the Government, have earned Singapore the reputation of being the number one place for start-ups in Asia (Asia, the New Hotbed for Start-Up Companies, 2015). The Government initiatives in developing the Singapore SME sector have therefore met with considerable success. The SPRING Singapore schemes, for example, would help Singapore companies create an estimated S$8 billion in value-add for the economy and 22,000 jobs when fully realised (Wong, 2015b). Venture capital investment in the technology sector has also increased from less than US$30 million in 2011 to more than US$1 billion in 2013 (Anthony, 2015).
The previous discussion emphasised that the Government has sought to build an innovative economy comprising not only international companies, but also local SMEs that were able to grow, support and regionalise into high growth markets (Economic Strategies Committee, 2010). This increased focus on entrepreneurship and innovation amongst Singapore SMEs by the Government supports the focus on the EO of Singapore SMEs in this study. An exploration of SMEs and their impact on the Singapore economy is discussed next.

2.6 Singapore SMEs

99% of Singapore SMEs employed less than 250 employees, with 93% being micro-enterprises with fewer than 10 employees (Teng, 2011). In relation to the discussion in the previous section, there is growing recognition of the current and potential future contribution of SMEs towards the economic growth of Singapore (Economic Strategies Committee, 2010). Singapore SMEs are seen as the ‘little acorns’ from which large enterprises grow (Liang, 2007, p.191) and are regarded as the ‘seedbed’ for future MNCs in Singapore (Hock, 2002, p.28). Singapore SME contributions to total enterprise value rose from 30% in the late 1990s to about 46% in 2004 and 58% in 2010 (OECD, 2013). The potential of SMEs was also highlighted by the President of Singapore, Tony Tan Keng Yam (2015):

*The Asian Development Bank projects that by 2030, the sum of the GDP of China, India and ASEAN in purchasing power parity terms could even exceed that of the US and Europe combined. Asia’s growth will continue to create significant opportunities for corporations, institutions and individuals in the region and beyond. ... The growth of markets in the region also provides opportunities for home-grown entities - whether established brand names like DBS, SingTel and Keppel Corporation, or SMEs - to establish and grow their presence in the region.*

As the Singapore economy matures, analysts from Morgan Stanley (2015) concurred that growth should come from a more vibrant start-up culture such as California’s Silicon Valley (Leow, 2015). Singapore’s ambition in becoming the next Silicon Valley of Asia has witnessed tremendous progress with it currently ranking number seven, just behind the USA, in the 2014 Global Innovation Index, which measures economies’ innovation capabilities and results (Zaid, 2015). The Economist (2015), furthermore, referred to a clustering of start-ups in Singapore in a building called “Block 71” as the “world’s most tightly packed entrepreneurial ecosystem” (Anthony, 2015, p. A26).

The vibrancy of the SME sector is Singapore was further highlighted by the Deputy Prime Minister and Co-ordinating Minister for Economic and Social Policies Tharman Shanmugaratnam (2015b), who added that the number of new companies set up in
Singapore net of those that shut down has been around 20,000 a year for the past five years, which is more than double that of the preceding five years. The Minister of State (Trade and Industry) Teo Ser Luck (2015) further stated that in addition to increasing in numbers, Singapore SMEs are increasingly displaying signs of transforming and improving capabilities, internationalising and investing in technologies. Singapore has also witnesseded many of its home grown companies such as Creative Technologies (IT), IPS Group Pte Ltd, Telesensory (Manufacturing), Ezra Holdings (Engineering), Spy Apparel and Charles and Keith (Apparel), but to name a few, who started out as SMEs but progressed to either global or regional expansion growth:

“Our home-grown enterprises have made their names around the world. ST Aerospace, which started as a maintenance depot for the Air Force in the 1970s, has become the world’s largest independent MRO (maintenance, repair and overhaul) provider. Hyflux’s membrane systems have been installed in more than 1,300 plants worldwide, including desalination plants in the African continent. BreadTalk has in just 14 years grown from a single outlet at Bugis Junction to more than 700 outlets in 15 countries. It says it sells its signature 'Floss' bun worldwide at a rate of one every ten seconds. XMI, started in a living room nine years ago, is selling its X-mini pocket-sized, high sound quality speakers in over 80 countries.”

Shanmugaratnam, (2015a, p.7)

Despite the significant development and growth of the SME sector in Singapore over the past few decades, Singapore SMEs share high failure rates much like other SMEs found globally (Theng & Boon, 1996). Singapore, however, has no official figures of SME failure rates. The Minister for Trade and Industry (Singapore) Lim Hng Kiang (2012) stated:

… we do not have very good data on overseas “business failure rates” for meaningful comparison. What we know, for instance is that in the United States, for 10 new businesses formed, about 8 to 9 businesses would cease operations in the same year. Our comparable numbers are between 7 and 8.

The failure rate of Singapore SMEs is, however, considerable and understanding the factors that contribute to Singapore SME success and failure is important as it would enable policymakers to undertake initiatives to enhance further SME success and development. In line with this, Wong (2016) noted that business closures exceeded newly-formed businesses in Singapore in 2015. Theng and Boon (1996), for example, investigated the factors affecting the failure of Singapore SMEs. They used self-administered questionnaires to gather data from 300 SMEs within the manufacturing sector in Singapore. They found that the key reasons behind Singapore SME failure
related to both endogenous and exogenous factors. Their findings pointed to Singapore SMEs rating endogenous factors such as (1) high operating expenses, (2) lack of capital, (3) a short-sighted view of the future, (4) lack of control over cash, (5) lack of knowledge of the company’s product and (6) inappropriate marketing strategy as being highly influential in SME failures. Exogenous factors with significant impact over failure included high taxes. As such, their findings pointed to Singapore SMEs viewing failures to be largely caused by internally controllable factors, of which financial and operational issues ranked highest.

The findings of the study in the discussion above contrasted with a study by Teng et al. (2011) who attributed the success of Singapore SMEs to variables associated with (1) employment, (2) training and retention of high-quality staff, (3) prevalence of good products and services, (4) optimum timing in introducing these to the marketplace, (5) excellent relationship of SMEs with customers and (6) the availability of top managers. Ghosh et al. (2001) also found a positive link between strong market orientation, effective management and access to broad base support and resources amongst Singapore SMEs in their study. Consequently, it is important for policymakers to understand the reasons behind Singapore SME success and failure and the impact of strategy in such organisations to their overall performance so as to assist in their future development and growth. A more in-depth discussion of the challenges of the Singapore economy is provided in the following section.

2.7 Current Challenges to the Singapore Economy

The discussion in the previous section highlighted the growth and development of Singapore SMEs and their importance to the nation’s economy over the past few years. Despite the continued growth of Singapore SMEs and Singapore as a whole, the Singapore economy faces several challenges moving forward:

Our economy is at a turning point. Our first 50 years saw us advance rapidly from Third World to First. But now that our economy is more mature, we will grow more slowly. With limited land and labour, and more severe global competition, we must upgrade our economy to sustain growth. But upgrading means restructuring, which means our people and businesses will need to adapt and change.

Tony Tan Keng Yam (2016), President of Singapore

The challenges to the Singapore economy are primarily based on the impacts of a turbulent business environment resulting from a slowing global economy and the impacts of the domestic economic restructuring that is currently being undertaken by the Government (discussed in Section 2.5). These challenges to the Singapore
economy are discussed as follows.

2.7.1 Impacts of a Slowing Global Economy
The slowdown of the three global growth engines comprising of China, the United States of America (USA) and Europe (Haverkamp, 2015) has had adverse impacts on Singapore. The economic slowdown of the China economy has caused stocks and currencies to tumble across Asia (Leong, 2015c; Surveys Paint Darkening Picture of World Economy, 2015). China’s economy has performed at its weakest level in 25 years, with projections indicating that it might not meet its growth targets (Yahya, 2015a). The close link of many Asian economies to China is expected to slow growth in the entire region (Chia, 2015h; Schuman, 2015; Yahya, 2015b). The turmoil in Asia, which has been the main engine of global growth for the past few years (Low, 2015b), has led to growth rating for the Asia-pacific economies to be cut (Lee, 2015; Reuters, 2015; Wong, 2015a) with factory output sliding across the region (Chia, 2015h). The IMF added that the long-term growth potential of Asia was slowing (Chia, 2015b) and that Southeast Asian economies were also “losing momentum” (Asia News Network, 2015, p.A41).

In the current globalised economy, “imbalances in one corner of the world inevitably affect other countries” (Coy, 2015, p.7). The European Central Bank (ECB) has cut its growth forecasts for Europe (ECB Lowers its Inflation and Growth Forecasts, 2015), where the combined economies of the European Union (EU) have a GDP around the size of the USA (Haverkamp, 2015). The IMF, Schroders, The World Bank, WTO and the OECD have further reduced global growth figures to around 3% (Chia, 2015i; Lee, 2015b, 2015c; Leong, 2015c; OECD, 2016; World Trade Organisation, 2015a). Coupled with Europe’s struggles and an unstable US recovery, the global economy faces a bleak outlook (Low, 2015b; Schuman, 2015), where the economic slowdown in Singapore might deepen (Au-Yong, 2015; Skilling, 2015b). The Government has projected a muted economic growth of between 1%-2%, with a slowdown in both manufacturing and services sectors over the next few years (Chang, 2015; It's Singapore vs the World, 2015; Yong, 2015a). The Ministry of Trade and Industry (MTI) expects the next few years to be “an increasing challenge” (Chia, 2015d, p.A.6). There is also an increased expectancy of a technical recession, which is two quarters of negative growth within a financial year (Skilling, 2015a; Wong, 2015). The rising global uncertainty as well as the lowering prices of commodities such as oil have led to the rapid decline of the Singapore currency as well, which has placed more pressures on the country’s economic growth while rising the cost of imports and interest rates (Goh, 2015; Skilling, 2015b).
Mr. Lim Swee Say (2015), Singapore’s Manpower Minister, added that the “small and limited” domestic market in Singapore would be significantly impacted by the increasingly volatile and uncertain global economy. He added that in order to stay abreast of competition, Singapore would have to stay ahead of the curve and Singapore needs to be more manpower-lean, with a stronger Singaporean core and better quality foreign manpower. The domestic economic restructuring to achieve the above has led to further challenges to the Singapore economy (Chia, 2015c; Seow & Ho, 2015), which are discussed next.

### 2.7.2 Domestic Economic Restructuring

Worldwide financial-market liberalisation and the increased globalisation of capital flows heavily impact on open financial-sector-dependent economies like Singapore (L. Lim, 2015). Singapore is expected to witness some of its traditional strengths such as being a regional hub and its strengths in services weaken as other countries in the region become more competitive (Skilling, 2015c). At the Singapore Economic Review Conference, Second Minister for Trade and Industry Iswaran (2015) concurred that Singapore would face increasing competition from neighboring Asian countries, particularly in the manufacturing sector. These sentiments were echoed by Minister for Foreign Affairs and Law, K. Shanmugam (cited in Yong, 2015b, p.A11):

> Anyone who thinks that 700 square meters (Singapore) can exist by itself in a cocoon, unaffected by international or regional economic or sociopolitical issues, clearly does not understand how Singapore functions.

Trade and Industry Minister Lim Hng Kiang (2015) warned that Singapore would only be able to continue to grow if it can stay the course and restructure the economy, innovate and raise productivity. The restructuring of the Singapore economy (discussed in Section 2.5) has, however, resulted in three key challenges for Singapore SMEs.

Firstly, Singapore is facing the effects of a reduced foreign workforce. Labor shortage has been weighing on growth in recent years with the government seeking to upgrade the labor force by grooming entrepreneurship and innovation, driving productivity, creating new jobs to replace obsolete jobs and managing the foreign worker population in Singapore to replace an aging population (The Way Ahead for Singapore, 2015). The country needs foreign workers to grow the economy but has to manage the flow carefully to address public unease over the inflow (Low, 2015a). Overall annual foreign workforce growth, for example, has moderated from 144,500 in 2007 to 34,000 in 2014 in line with this push to reduce the foreign work force (Wong, 2015).
Secondly, the Singapore economy has been experiencing lower levels of productivity. Productivity rates and total employment figures since the beginning of economic restructuring have declined across all sectors (manufacturing, construction, services) (Chia, 2015g; Seow & Ho, 2015). The economic restructuring has led to many professionals being displaced from their jobs, with a total of 12,930 losing their jobs, the highest since the recession in 2009 (Seow, 2015b). Furthermore, productivity growth has averaged only 0.3%, significantly lower than the targeted 3% set by the Government (Chia, 2015g; Leong, 2015b). The Prime Minister of Singapore Lee Hsien Loong, in his New Year address to the nation, had called this fall in productivity rates “disappointing” and had stated that Singaporeans “must do better” or “we will soon stagnate” (Lee, 2015a).

Finally, increasing wage rates pose another challenge to the Singapore economy. The median wages of Singaporeans is already among the highest in Asia (Mok, 2015a). The tighter inflow of foreign workers coupled with an aging population and lower productivity may potentially increase wages even higher, thereby posing problems for the Singapore economy (The Way Ahead for Singapore, 2015). In addition to the higher labor costs, rising rental and utility costs may cause many Singapore businesses to fail (Chia, 2014). Therefore, despite the presence of several government schemes and grants, Singapore SMEs face financial limitations (Chia, 2015f; Yahya, 2015c) with many SMEs “struggling to make ends meet” (Wong, 2015, p.B2). The manufacturing sector, for example, has been hit by sluggish world trade, high costs and manpower constraints and has been the main drag of the Singapore economy (Chia, 2015e; Chong, 2015; Leong, 2015a).

In view of the above discussion, Singapore businesses, particularly SMEs, have expressed increased pessimism in relation to future organisational performance (Koh, 2015; M. Lee, 2015d; Yahya, 2015d). The outlook for Singapore, therefore, depends on how it responds to the domestic and international challenges identified above. The challenging uncertain environment in which Singapore SMEs have to operate, as explored in the above discussions, supports the focus on the environment in this study. The combination of significant domestic and international challenges means the task of sustaining Singapore’s success over the next 50 years will be at least as demanding as the establishment and transformation of Singapore over the past 50 years (Skilling, 2015c). In view of the aforementioned, a new committee on “The Future Economy” chaired by Finance Minister Heng Swee Keat was set up in October 2015 to look at how Singapore could help businesses adapt amid a weaker global economy and a leaner workforce (Chia, 2015a). Steve Leonard (2015), Executive Deputy Chairman of
the Infocomm Development Authority of Singapore, concurred that Singapore SMEs face “manpower and resource constraints”, where they “need to capitalise on new revenue opportunities” and make use of “technology to innovate, transform and compete" (p.9). The summary of this chapter is presented next.

2.8 Summary
In summary, this chapter provided a review of Singapore and Singapore SMEs and presented an overview of the context of this study. It first discussed the history and development of Singapore as a global trading nation. It then provided an overview of economic policies initiated by the Government that helped Singapore’s development over the past few decades. This was followed by a discussion on Singapore SMEs, including the government policies that were centered on the development of the SME sector in Singapore as well as the importance of SMEs to the Singapore economy. The next chapter presents the detailed review of the academic literature surrounding EO, the SDMP, SMEs, the Environment as well as Organisational Performance.
3. Literature Review

3.1 Introduction

The previous chapter presented an overview of Singapore, its economy and particularly the Singapore SME sector. It discussed the significance of SMEs within the Singapore economy. The definition of SMEs applied in this study was also presented. The chapter further emphasised the importance of the SME sector to the Government in meeting the future economic growth and development of the country.

The objective of this chapter is to critically review the existing literature on SMEs, EO, the SDMP, the environment and organisational performance. The discussion begins with a review of the SME literature in Section 3.2. This section includes a discussion on the various definitions of SMEs. The review of the literature surrounding SMEs is followed by a review of the extant literature relevant to EO in Section 3.3. This particularly involves a review of the various dimensions of EO as well as its link to the SDMP. This is followed by a discussion about the SDMP and a more in-depth discussion on the various perspectives of strategy, namely deliberate, emergent and mixed perspectives in Section 3.4. Particular emphasis is placed on reviewing the ten schools of thought as postulated by Henry Mintzberg (1990a), with a discussion on the specific schools of thought adopted for this study.

The chapter will then provide a discussion on the external environment of an organisation and its dimensions of instability, complexity and munificence in Section 3.5. The chapter will then proceed to a discussion on organisational performance in Section 3.6. This section will discuss how performance is defined and how it is measured using both financial as well as non-financial measures. The chapter then concludes with a summary of the key points addressed in this chapter. An overview of SMEs is discussed in turn.

3.2 Small and Medium Enterprises (SMEs)

3.2.1 Overview of SMEs

The vast majority, more than 90%, of organisations around the world fall into the category of SMEs (Ardic, Mylenko, & Saltane, 2011; International Finance Corporation, 2012a; Serafica, Hredzak, & Yuhua, 2010; Sen et al., 2016). The key advantage of SMEs lies in their ability to react rapidly to opportunities and challenges in the rapidly changing business environment due to high levels of innovation, flexibility and entrepreneurship (Peel & Bridge, 1998; Sathe, 2007; Child et al., 2017). Furthermore, SMEs exert a strong influence on the economies of many countries (Thorsten Beck, 2013; Ladzani & Van Vuuren, 2002; Díaz-Chao et al., 2017). World bodies such as the
Association of Southeast Asian Nations (ASEAN), the Asia Pacific Economic Cooperation (APEC) and the Organisation for Economic Cooperation and Development (OECD) concurred that SMEs serve as sources of innovation and are central to the growth of advanced, emerging and developing economies (Asia-Pacific Economic Corporation, 2016; Association of South-East Nations (ASEAN), 2009; OECD, 2015; Serafica et al., 2010). The World Bank (2016c), for example, has identified the SME sector as a core element in its strategy to foster economic growth, employment and poverty alleviation. Likewise, East Asian economies have prioritised the growth of the SME sector in developing more adaptable and flexible economies in view of economic downturns such as the Asian Financial Crisis (Harvie, 2004).

Against the backdrop of the fragile global economy and economic uncertainties, the role of SMEs becomes important in mitigating these effects especially with their ability to adapt quickly to the changing environment. Further, SMEs represent 99 per cent of all business enterprises ... Through such efforts in the promotion of SMEs’ competitiveness and innovativeness, SMEs’ can contribute not only to greater economic growth, but also create new sources of growth that will support the vision of AEC’s equitable economic development pillar.

ASEAN Secretariat, (2012, p.v)

Recognising the importance of the SME sector to national economies, there has been increased research and government attention towards the growth of this sector (Verreynne & Meyer, 2010). Against this backdrop, this section will include a discussion on the various definitions of SMEs and their contributions to national economies. Further explored will be the failure rates of SMEs. The various definitions of SMEs are discussed next.

### 3.2.2 Defining SMEs

In the existing literature, SME definitions are heterogeneous, with definitions varying across countries and authors (Harwood & Konidaris, 2015; Holm & Poulfelt, 2002; Serafica et al., 2010; Krishnan & Scullion 2017). For example, a review of the ProQuest Dissertations and Theses Global Database (PQDTG, 2015) involving SMEs pointed to the utilisation of interchangeable terms such as small businesses, small organisations, small firms and SMEs in 46 studies (eg., Amanyraoufpoor, 2012; Banks, 2013; Gandy, 2015). Furthermore, SMEs are also defined in terms of qualitative or quantitative criteria. In relation to qualitative criteria, seminal writers in the area of SMEs, Scott and Bruce (1987), referred to SMEs as organisations where the manager(s) supplied both capital and ownership and where operations were mainly local. Similarly, Everett and Watson (1998) referred to SMEs as organisations in which one or two persons made critical management decisions without the aid of internal.
specialists and with specific knowledge in only one or two functional areas. The commonly used quantitative criteria in defining SMEs included legal status, sector, employment, turnover, capital investment and balance sheet totals (ACCA, 2010; Blackburn & Jarvis, 2010). Within the quantitative criteria used for the definition of SMEs, the number of employees and/or annual sales turnover were the most commonly utilised (Ayyagari, Beck, & Demirguc-Kunt, 2007; Harwood & Konidaris, 2015). Researchers and policy makers commonly use the number of employees to define SMEs as it is an objective measure, which is easier to obtain from SMEs than financial information (Ardic et al., 2011; Curran & Blackburn, 2000; Ganbold, 2008).

The term SME covers a wide range of definitions and measures, varying from country to country and varying between the sources reporting SME statistics. Some of the commonly used criteria are the number of employees, total net assets, sales and investment level. However, the most common basis for definition is employment, and here again, there is variation in defining the upper and lower size limit of an SME. Despite this variance, a large number of sources define an SME to have a cut-off of 250 employees.

Ayyagari et al. (2007, p.416)

Several studies have utilised employment numbers to define SMEs (eg., Mazzarol & Reboud, 2006; Verreynne & Meyer, 2010). Holm and Poulfelt (2002), in their qualitative study of Danish SMEs within the manufacturing industry, included organisations with 30 to 300 hundred employees as SMEs. By contrast, some studies have gone further in distinguishing between small- and medium-sized enterprises (eg., Peel & Bridge, 1998; Wiesner & Millett, 2012). Naidu (2013), for example, in his mixed approach study of the type of SDMP within Singapore SMEs and its relationship to organisational performance, defined organisations with less than 100 employees as being small and organisations with 100-200 employees as being medium-sized. The various economic trade associations have also developed their own definitions of SMEs. The European Union (EU), since 2005, has defined SMEs based on the thresholds of employment numbers, balance sheet and annual turnover. Based on these thresholds, enterprises are categorised as micro, small and medium-sized as illustrated in Table 3.

Table 3: EU Definition of SMEs in 2014

<table>
<thead>
<tr>
<th>Enterprise Category</th>
<th>Headcount</th>
<th>Annual Turnover</th>
<th>Annual Balance Sheet Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medium-Sized</td>
<td>&lt; 250</td>
<td>≤ €50 mil</td>
<td>≤ €43 mil</td>
</tr>
<tr>
<td>Small</td>
<td>&lt; 50</td>
<td>≤ €10 mil</td>
<td>≤ €10 mil</td>
</tr>
<tr>
<td>Micro</td>
<td>&lt; 10</td>
<td>≤ €2 mil</td>
<td>≤ €2 mil</td>
</tr>
</tbody>
</table>

Source: (European Union, 2015)
The OECD (2000), on the other hand, considers an SME to be micro if it has only 1 to 4 employees; very small if there are between 5 to 19 employees; small if employees numbers range from 20 to 99 and medium if the enterprise employs between 100 to 500 employees. Likewise, The World Bank (cited in Ayyagari et al., 2007) defines SMEs as those enterprises with a maximum of 300 employees, $15 million in annual revenue, and $15 million in assets. The International Finance Cooperation (IFC), by contrast, since 2012 has referred to SMEs as businesses with less than 300 employees and distinguished them as being micro, small and medium if their employee numbers were less than 10, between 10 and 50 and between 50 and 300 respectively (International Finance Corporation, 2012b). The number of employees in SME definitions, therefore, typically tends to fall in the 1 to 300-employee range.

Based on the above discussion, it can be concluded that the comparison of SME studies is difficult because of the various definitions used. National definitions of SMEs vary substantially from those discussed above, but there is a general consensus around the 150–300 employees threshold (ACCA, 2010). Although SMEs are defined differently across countries, their impact on national economies has been steadily rising (Beck, 2013; Harwood & Konidaris, 2015; OECD, 2015). The following section reviews the contribution of SMEs to national economies.

3.2.3 SMEs – Contribution to the Economy

SMEs are considered to be the backbone of many economies and an important source of economic growth (Ardic et al., 2011; Serafica et al., 2010). They are increasingly recognised as the engines of economic growth in global economies (Harwood & Konidaris, 2015; International Finance Corporation, 2012b). Specifically, SMEs play a crucial role in economic growth by generating high employment and income (Beck, 2013; Sharma et al., 2011; Tambunan, 2010). To illustrate, SMEs made up over 95% of enterprises in OECD countries, accounted for 60% to 70% of employment and were responsible for over 90% of new job creation (World Trade Organisation, 2005). By comparison, large businesses with more than 250 employees, accounted for just 0.2% of enterprises in the EU’s nonfinancial sector (Wymenga, Spanikova, Barker, Konings, & Canton, 2012).

A growing SME sector has a positive effect on domestic economies (Beck, Demirgüc-Kunt, & Maksimovic, 2004; Demirgüç-Kunt, Beck, & Levine, 2003). SMEs contribute substantially to the GDP (Ayyagari et al., 2007; Dalberg, 2011; International Finance Corporation, 2012b) and productivity of many countries (Tewari, Skilling, Kumar, & Wu, 2013). There is therefore a strong positive relationship between the relative size of the SME sector and economic growth (Ardic et al., 2011). In the United States, for
example, SMEs play a large role in the economic growth as 99% of all US companies are SMEs and employ 75 million employees that accounts for 52% of private sector US employees (Inyang, 2013). According to the Australian government (2011), SMEs contributed around 60% of Australia's industrial value added in 2009–10 while in OECD economies, SMEs accounted for some 55% of GDP (Edinburgh Group, 2013). Data from less developed countries show a similar pattern. The United Nations Industrial Development Organisation (UNIDO) estimates that SMEs represent over 90% of private business and contribute more than 50% of employment and of GDP in most African countries (Tewari et al., 2013). Moreover, SMEs generated about 30% of direct exports and 50% of sales (APEC, 2003). Similarly, SMEs are significant to the ASEAN economy:

**SMEs are the backbone of the ASEAN economies. They account for more than 96 per cent of all enterprises and for between 50% and 95% of employment in many AMSSs. In addition, the contribution of SMEs to GDP is generally significant, about 30%-53%, and the contribution of SMEs to exports is between 19%-31%. They are also the largest source of domestic employment across all economic sectors and in both rural and urban areas.**

*Association of South-East Nations (2009)*

The statistics of SME contributions in terms of number of enterprises, employment opportunities and gross value added across the EU is reflected in Table 4. Gross Value Added (GVA) included depreciation, rewards to labour, capital and entrepreneurial risk. In terms of employment, SMEs provided an estimated 67.4% of jobs in the non-financial business economy in 2012 (Wymenga et al., 2012).

**Table 4: SMEs across the EU**

<table>
<thead>
<tr>
<th></th>
<th>Micro</th>
<th>Small</th>
<th>Medium</th>
<th>SMEs</th>
<th>Large</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Number of Enterprises</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number</td>
<td>19,143,521</td>
<td>1,357,533</td>
<td>226,573</td>
<td>20,727,627</td>
<td>43,654</td>
<td>20,771,281</td>
</tr>
<tr>
<td>%</td>
<td>92.2</td>
<td>6.5</td>
<td>1.1</td>
<td>99.8</td>
<td>0.2</td>
<td>100</td>
</tr>
<tr>
<td><strong>Employment</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number</td>
<td>38,395,819</td>
<td>26,771,287</td>
<td>22,310,205</td>
<td>87,477,311</td>
<td>42,318,854</td>
<td>129,796,165</td>
</tr>
<tr>
<td>%</td>
<td>29.6</td>
<td>20.6</td>
<td>17.2</td>
<td>67.4</td>
<td>32.6</td>
<td>100</td>
</tr>
<tr>
<td><strong>Gross Value Added</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EUR Millions</td>
<td>1,307,360.7</td>
<td>1,143,935.7</td>
<td>1,136,243.5</td>
<td>3,587,540</td>
<td>2,591,731.5</td>
<td>6,179,271.4</td>
</tr>
<tr>
<td>%</td>
<td>21.2</td>
<td>18.5</td>
<td>18.4</td>
<td>58.1</td>
<td>41.9</td>
<td>100</td>
</tr>
</tbody>
</table>

*Source: (Wymenga et al., 2012)*

The figures from the above discussion indicate that the contribution of SMEs to economic development is significant. The contribution of the SMEs to the economy occurs in two ways. Firstly, SMEs directly contribute to GDP growth by increasing output, adding value, and generating profit (Tewari et al., 2013). Secondly, SMEs
indirectly impact on GDP through increased innovation (Dalberg, 2011; Gale & Brown, 2013). SMEs are considered a seedbed for innovation, which leads to an increase of competitiveness and stimulates entrepreneurial talent (Beck, 2013; Biggs, 2002). For example, one-third of all new patents issued came from SMEs (Cronin-Gilmore, 2012). With their innovation and creativity, SMEs have the potential to reverse the course for any economy (Monahan, Shah & Mattare, 2011). Furthermore, SMEs tend to do most business in the domestic market and therefore strongly influence the domestic economy. A stronger SME sector can therefore bolster a country's resilience by broadening and diversifying the domestic economy, thereby reducing the vulnerability to sector-specific shocks and fluctuations in international private capital flows (Dalberg, 2011).

In addition to the contribution to the GDP, SMEs have a meaningful share of employment (Ayyagari et al., 2007). SMEs account for more than 70% of total employment in many countries (Beck et al., 2008). International Finance Corporation (2012b), for example, noted that SMEs accounted for more than half of all formal employment worldwide. Similarly, according to a report published by APEC 2010, SMEs accounted for more than half of the private sector employment in the APEC economy (Serafica et al., 2010). In OECD countries, SMEs with less than 250 employees employed two-thirds of the formal work force (Beck et al., 2008; Dietrich, 2012). In 2012, it was estimated that SMEs accounted for 67% of total employment in the EU (Wymenga et al., 2012). SMEs also created more jobs than larger organisations (Ayyagari, Demirgüç-Kunt, & Maksimovic, 2011). The labour-intensive nature of SMEs stimulates job growth, although they typically achieve lower levels of productivity (Tewari et al., 2013; Wymenga, BV, & Econometrics, 2011).

Despite the increasing contributions of SMEs to national economies, they typically face high failure rates (Bracker et al., 1988; Watson, 2003) as discussed previously in Section 1.2.2. Considering there is such a high percentage of SME failure, it is important to examine strategies contributing to the sustainability of SMEs. Incorporating an entrepreneurial approach as a foundation of strategic management is necessary (McGrath & MacMillan, 2000) particularly amongst SMEs. EO, which is a key construct of entrepreneurship, is discussed next.
3.3 Entrepreneurial Orientation

As discussed previously in Section 1.2.4, EO has emerged as a key construct within the strategic management and entrepreneurship literatures (Altinay & Wang, 2011). Entrepreneurship focuses on entering new markets for the purpose of creating economic wealth (Rocha, 2004). There are several perspectives of entrepreneurship. One perspective evaluated entrepreneurship at the individual level, focusing on the role of the entrepreneurs in developing and instituting change within organisations (Miller, 1983; Naman & Slevin, 1993). The other perspective, used in this study, involved the examination of entrepreneurship at the organisational level (Brian, 1985; Stevenson & Gumpert, 1985). Entrepreneurial organisations are those in which the top management styles are evidenced by the organisation’s strategic decisions and operating management philosophies (Covin & Slevin, 1988). The EO of the organisation is, therefore, based on the entrepreneurial style of the organisation’s top management (Miller, 1983).

In contrast to the concept of entrepreneurship, which focuses upon which business to start (Covin & Slevin, 1991), EO focuses on the methods, practices and decision-making styles within organisations to act entrepreneurially to gain a sustainable competitive advantage (Lumpkin & Dess, 1996). EO is therefore a behavioral construct that explains the process of new venture creation (Nummela, Saarenketo, & Puumalainen, 2004). The impacts of globalisation and liberalisation have resulted in an increasingly challenging business environment that requires organisations, particularly SMEs, to enhance operational efficiency and competitiveness to boost organisational performance (Ng & Kee, 2012). In order to overcome resource and size disadvantages, SMEs employ a number of competitive strategies to remain competitive, of which EO is one (Abebe, 2014).

EO has become a much-explored dimension of business strategy and has been typically found to significantly influence organisational performance (Anderson & Eshima, 2013; Covin & Wales, 2012; Vij & Bedi, 2012; Kraus et al., 2012; Miao et al., 2017). Rauch et al. (2009, p. 778) concurred that “academic interest in entrepreneurship has virtually exploded in recent years”. Covin and Miller (2014) too noted that EO has garnered considerable attention from researchers, prompting a meta-analysis (Rauch et al., 2009), literature reviews (e.g., Edmon & Wiklund, 2010; Wales et al., 2011; Wales et al. 2013), and an Entrepreneurship Theory and Practice special issue (Covin & Lumpkin, 2011) on the topic.

The earliest work on EO was based on the seminal work of Miller (1983), who identified
(1) innovativeness, (2) risk-taking, and (3) proactiveness as the dimensions of EO. Covin and Slevin (1989, p. 79) further theorised that these three dimensions acted in concert to "comprise a basic, unidimensional strategic orientation" that should be aggregated together when conducting research in the field of entrepreneurship. Lumpkin and Dess (1996) suggested two additional dimensions, namely (4) competitive aggressiveness and (5) autonomy, to better describe EO. They added that EO should be conceived as a multidimensional phenomenon in which the dimensions represent independent predictors and therefore need not co-vary for an organisation:

All of these factors—autonomy, innovativeness, risk taking, proactiveness, and competitive aggressiveness—may be present when a firm engages in new entry. In contrast, successful new entry also may be achieved when only some of these factors are operating. ... Thus, although some prior research suggests that the dimensions of an EO covary (e.g., Covin & Slevin, 1989), we suggest that autonomy, innovativeness, risk taking, proactiveness, and competitive aggressiveness may vary independently, depending on the environmental and organisational context.

Lumpkin and Dess (1996, p. 137)

Researchers are divided about the extent to which EO dimensions need to be present for an organisation to be considered entrepreneurial. Miller (1983), for example, suggested that only organisations that possess all three dimensions of innovativeness, risk-taking and proactiveness to a similar extent be considered entrepreneurial. This was supported by Covin and Slevin (1991), suggesting that entrepreneurial organisations need not have all five dimensions to coexist. Lumpkin and Dess (1996), on the other hand, argued that organisations engaging in all five dimensions of EO be considered as entrepreneurial. Lumpkin and Dess’ (1996) conceptualisation of EO is therefore more domain-focused, it specifies where to look for EO, whereas Miller’s (1983) conceptualisation of EO is more phenomenon-focused, it specifies what EO looks like (Covin & Wales, 2012).

The majority of studies on EO have examined only three of the five dimensions, namely autonomy, innovativeness and risk-taking (Hughes & Morgan, 2007). Based on the review of past PhD theses involving SMEs (PGTDG, 2015), seven examined the EO construct. Of these seven studies, only two incorporated all five dimensions of EO (eg., Davidov, 2014; Yang, 2006). Similarly, many studies in the extant literature have also only utilised the aforementioned three dimensions of EO (e.g. Kropp, Lindsay, & Shoham, 2008; Lumpkin & Dess, 2001; Wiklund & Shepherd, 2003), thereby providing only a partial analysis of EO. This study adopted Lumpkin and Dess’ (1996) postulation that EO is a multidimensional concept. Although Covin and Lumpkin (2011, p.856)
stated that there was “no objectively correct or incorrect conceptualisation of the phenomenon” in examining EO, it is beneficial to identify the unique contributions of each sub-dimension of EO such that organisations could seek the best combination to improve organisational performance (Casillas & Moreno, 2010; Wales et al., 2011; Semrau et al., 2016).

Lumpkin and Dess’ (1996) conceptualisation of EO, despite being more frequently cited than that of Covin and Slevin (1991), is less tested (Wales et al., 2011). Many researchers (e.g., Frishammar & Andersson, 2009; Hansen, Deitz, Tokman, Marino, & Weaver, 2011; Hughes & Morgan, 2007), however, have supported Lumpkin and Dess’ (1996) argument for the multidimensional nature of EO. Furthermore, many studies have adopted Lumpkin and Dess’ (1996) five EO dimensions (e.g., Coulthard, 2007; Krauss, Frese, Friedrich, & Unger, 2005; Li, Huang, & Tsai, 2009; Wiklund & Shepherd, 2005). The quantitative study by Hughes and Morgan (2007), for example, investigated the independent impact of the five dimensions of EO on 211 high-technology incubating organisations in the UK. They found that only proactiveness and innovativeness had a positive influence on business performance while risk-taking had a negative relationship. Furthermore, competitive aggressiveness and autonomy appear to hold no impact on business performance.

Research adopting a multidimensional conceptualisation of EO has been increasing in recent years, indicating greater acceptance that individual EO dimensions manifest unique contributions to organisational outcomes (Wales et al., 2011). Studying all five dimensions of EO therefore provides a more comprehensive examination of EO (Vora, Vora, & Polley, 2012). Saeed, Yousafzai, and Engelen (2014) conducted a meta-analysis on 177 EO-performance relationship studies and found that only 35 studies have evaluated EO as a multidimensional concept and called for more research on the multidimensional concept of EO for future references. The five dimensions of EO are discussed next.

3.3.1 Innovativeness
Innovativeness is defined as an organisation’s “tendency to engage in and support new ideas, novelty, experimentation, and creative processes that may result in new products, services, or technological processes” (Lumpkin & Dess, 1996, p.142). Covin et al. (2006) suggested that innovation characterised a company’s eagerness to shift from current practices, expand in research and develop new ideas/products or services. Drucker (2014) stated that innovation was the primary activity of entrepreneurship while Schumpeter (2013) stressed that innovation was the key
Innovativeness contributes to the organisation’s success by improving the chances of developing new products/services, developing new processes or applying new technologies, resulting in first mover advantages (Richard, Wu, & Chadwick, 2009; Wiklund, 1999). This enables organisations to renew their market offerings, which is required for sustainability and growth in a highly competitive and rapidly changing business environment (Damanpour & Wischnevsky, 2006). Innovativeness therefore enables businesses to succeed in solving business problems and challenges (Hult et al., 2004; Iakovleva, 2013). Moreover, effective innovativeness helps to create a sustainable competitive advantage by creating new value for customers (Mizik & Jacobson, 2003; Weerawardena & Mavondo, 2011). Greater levels of EO are thus required for greater innovativeness (Boso, Story, & Cadogan, 2013).

### 3.3.2 Risk-Taking

Risk taking refers to organisations “incurring heavy debt or making large resource commitments, in the interest of obtaining high returns by seizing opportunities in the marketplace” (Lumpkin & Dess, 1996, p.144). Risk-taking as a dimension of EO is considered as one of the major attributes of entrepreneurship (Aloulou & Fayolle, 2005; Natarajan Venkatraman, 1989). It emphasises an organisation’s willingness to engage in calculated business-related risks in the marketplace, even when their outcomes are uncertain (Lumpkin & Dess, 2001) in the hope of obtaining high returns (Lumpkin & Dess, 1996; Miller, 1983).

Organisations typically face three types of risk, namely business risk, financial risk and personal risk (Dess & Lumpkin, 2005). Business risk is the risk of entering untested markets, or committing to unproven technologies (Baird & Thomas, 1985; Dess & Lumpkin, 2005; Shane & Venkataraman, 2000). Financial risk is committing a significant amount of resources for growth (Baird & Thomas, 1985; Dess & Lumpkin, 2005). Personal risk refers to an executive deciding to favor a certain strategic course of action (Piirala, 2012; S. Zahra & Dess, 2001), where failure in the decision may lead to personal consequences (Dess & Lumpkin, 2005). Organisations need to undertake risky decisions in order to compete in the current turbulent and dynamic business environment.
environment (Harris & Ogbonna, 2006; Khandwalla, 1977). Organisations that do not take risks in dynamic environments will lose market share relative to more aggressive competitors (Covin & Slevin, 1991; D. Miller, 1983).

Research suggests that organisations taking bigger risks are more entrepreneurial and may yield greater returns (McGrath, 2001; Mishra, Barclay, & Lalumière, 2014; Wiklund & Shepherd, 2005). A risk-averse organisation, by contrast, will avoid doing something that provides uncertain yield and is therefore less responsive to a changing environment, which results in lower shareholder value (Avlonitis & Salavou, 2007; Bhardwaj & Sushil, 2012). Lower level of risk-taking will thus result in weaker performance (Hughes & Morgan, 2007). However, the findings of a meta-analysis by Rauch, Wiklund, Frese, and Lumpkin (2004) showed that the contribution of risk-taking to organisational performance is smaller than that of the other EO dimensions. Furthermore, Elston and Audretsch (2011) argued that the level of risk-taking might be the same between entrepreneurial and non-entrepreneurial organisations. Similarly, some studies were not able to show the positive contribution of risk-taking to performance (Naldi, Nordqvist, Sjöberg, & Wiklund, 2007; Sebora, Lee, & Sukasame, 2009).

### 3.3.3 Proactiveness

Proactiveness is defined as “An opportunity-seeking, forward-looking perspective involving introducing new products or services ahead of the competition and acting in anticipation of future demand to create change and shape the environment” (Lumpkin & Dess, 2001, p.431). Organisations establish proactiveness by applying an aggressive attitude toward competition and searching for advantageous opportunities (Miller, 1983; Piirala, 2012; Vij & Bedi, 2012). This involves anticipating and pursuing new opportunities related to future demand and becoming involved in emerging markets (Lumpkin & Dess, 1996). Proactive organisations therefore tend to possess first-mover advantages, enabling high profits from new products in new markets in the absence of competing products (Ferrier, Smith, & Grimm, 1999; Frishammar & Andersson, 2009). Proactive organisations can be therefore be characterised as pioneers, with the distinct ability to capitalise on emerging opportunities (Wiklund & Shepherd, 2005). They create competitive advantages by identifying the future needs of current and potential customers, monitoring trends and anticipating changes in demand (Kropp et al., 2008; Teece, Pisano, & Shuen, 1997).

Based on the above discussion, proactive organisations start with learning the external environment by undertaking environmental scanning (Haase & Franco, 2011; Hughes
Environmental scanning is as an assessment of social and physical factors within and outside the company’s boundaries (Welter, Mayer, & Quick, 2013). This means that proactive organisations scan the environment more thoroughly than less proactive organisations to identify opportunities in their external environment. Proactive organisations demonstrate therefore awareness of and responsiveness to market signals (Hughes & Morgan, 2007). Accordingly, these organisations are likely to be more knowledgeable in regards to the acquisition of information and resources than less proactive organisations. By engaging in these activities, proactive organisations are able to introduce new products in the markets ahead of their competitors (Venkatraman, 1989). Proactive organisations can thus be considered more as a leader than a follower, since they possess the foresight to seize new opportunities (Lumpkin & Dess, 1996).

3.3.4 Autonomy
Autonomy is defined as, “The independent action of an individual or a team in bringing forth an idea or a vision and carrying it through to completion” (Lumpkin & Dess, 1996, p.140). In general, autonomy refers to the ability of employees to be “self-directed in the pursuit of opportunities” where actions are “taken free of stifling organisational constraints” (Lumpkin & Dess, 1996, p.140). In a broader sense, autonomy reflects the strong desire of a person to have freedom in the development of an idea and in its implementation without any restrictions from the organisation (Li et al., 2009; Lumpkin & Dess, 1996).

Hough and Scheepers (2008) referred to autonomy as an internal element of EO, as it influences a company’s climate of EO. Autonomy is considered the most important factor for improving organisational performance across industries as organisations cannot function entrepreneurially without giving autonomy to their employees (Coulthard, 2007). Lumpkin, Cogliser, and Schneider (2009) suggested that autonomy should exist at the strategic level to achieve high levels of EO within an organisation. Individuals and teams would then be able to exercise autonomy with the intention of establishing a new business concept, idea, or vision (Lyon, Lumpkin, & Dess, 2000). One of the key benefits associated with autonomy is that it enhances employee motivation when offered in organisations and results in higher organisational performance (Prottas, 2008). However, other studies have revealed that autonomy does not always contribute to positive results for all organisations (Covin et al., 2006). Similarly, Gebert, Boerner, and Lanwehr (2003) found that higher levels of autonomy, resulted in lower levels of innovativeness. Covin et al. (2006) suggested that growth-oriented organisations are likely to implement a more autocratic style of management.
3.3.5 Competitive Aggressiveness

Competitive aggressiveness is defined as “A firm's propensity to directly and intensely challenge its competitors to achieve entry or improve position, that is, to outperform industry rivals in the marketplace” (Lumpkin & Dess, 1996, p.148). Covin and Slevin (1989) reported that competitive aggressiveness is highly correlated with entrepreneurship. Organisations that possess competitive aggressiveness tend to assume a combative posture towards rivals in an attempt to surpass competitors that threaten their survival or market position in the industry (Lyon et al., 2000). Competitive aggressiveness may include the use of confrontational approaches such as fast follower strategy or reactive approach when competitive challenges exist (Chen, 1996).

An organisation’s aggressiveness can be implemented through responsive or reactive behaviour. Responsiveness may take the form of head-to-head competition or a direct attack on competitors, such as when an organisation enters a market where a competitor is already present. In contrast, reactiveness involves a direct reaction to a competitor’s action. For example, an organisation might decrease prices and sacrifice profitability to maintain its market share when a competitor introduces a new product to the chosen market (Lumpkin & Dess, 1996). Aggressiveness may lead to organisational performance improvement because the focus on out-maneuuvring and undermining competitors strengthens the organisation’s competitiveness at the expense of rivals (Lumpkin & Dess, 1996). Being aggressive in competition allows an organisation to improve its market position by undermining its competitors. It also enables organisations to respond quickly to the competitors’ actions that are considered detrimental.

In sum, it is evident that rapid changes occurring in the business environment, where both product and business model life cycles get shorter, and future profits from existing operations are uncertain, require organisations to continuously look for new opportunities (Hamel, 2000; Rauch et al., 2009), and develop more entrepreneurial strategies (Hitt, Ireland, & Hoskisson, 2012). Based on the above discussion on EO and its respective dimensions, it is evident that entrepreneurial strategies are regarded as being related to better organisational performance (Kraus & Kauranen, 2009; Rauch et al., 2009). However, it is important that the impact of EO on performance is researched, since according to Covin and Slevin (1991), adopting an EO is a resource consuming strategy and requires significant investments. The EO-Performance relationship is discussed next.
3.3.6 Entrepreneurial Orientation and Organisational Performance Relationship

Research concerned with EO has focused on the linkages between organisational structure, management style and particularly organisational performance (Tzokas, Carter, & Kyriazopoulos, 2001). Many entrepreneurship scholars have attempted to explain organisational performance by investigating an organisation’s EO (Wiklund & Shepherd, 2003; Saeed et al., 2014). Therefore, the EO-Performance relationship has become the central focus of interest for studying EO (Covin et al., 2006; J. Tang, Tang, Marino, Zhang, & Li, 2008; Wiklund & Shepherd, 2005).

The growing interest in the study of entrepreneurship is a response not only to the belief that entrepreneurial activity will result in positive macroeconomic outcomes but to the belief that such activity can lead to improved performance in established organisations.

Covin & Slevin (1991, p.19)

To date, findings have been mixed in relation to the EO-Performance relationship. On the one hand, EO has been found to be a key ingredient for organisational success (Anderson & Eshima, 2013; Covin & Slevin, 1989; Wiklund & Shepherd, 2005) and a source of competitive advantage (Lumpkin & Dess, 1996; Rauch et al., 2009). Numerous studies have shown that the EO-Performance relationship is positive (e.g., Hughes & Morgan, 2007; Keh, Nguyen, & Ng, 2007; Krauss et al., 2005). For example, Li et al. (2009) in their quantitative study of 165 organisations in the Taiwan Securities and Futures sector found a positive relationship between EO and organisational performance utilising all five dimensions as postulated by Lumpkin and Dess (1996). Therefore it can be concluded that there is a positive EO-Performance relationship.

In relation to the above discussion, the strength of the positive EO-Performance relationship, however, varies significantly across various studies and contexts (Wales, Gupta, & Mousa, 2013). Some studies report weak correlations (e.g., Lumpkin & Dess, 2001; Walter, Auer, & Ritter, 2006) or are unable to find a significant relationship (e.g., Covin, Slevin, & Schultz, 1994; George, Wood, & Khan, 2001; Li, Zhang, & Chan, 2005; Stam & Elfring, 2008). Similarly, Slater and Narver (2000) conducted a quantitative study of senior managers of 53 single-business corporations of Strategic Business units in the US. They were unable to provide any evidence of a positive relationship between EO and profitability. Lee, Lee and Pennings (2001), in addition, found that EO may not significantly improve organisational performance while Hart (1992) argued that an organisation’s entrepreneurial strategy-making mode may even lead to poor performance. Such differences apparently reflect the fact that EO “may
sometimes, but not always, contribute to improved performance” (Wiklund & Shepherd, 2005, p. 73).

In summary, there are conflicting results for the EO-Performance relationship. This lack of agreement suggests that there are mitigating factors that work in conjunction with EO that determine organisational performance (Messersmith & Wales, 2011; Rauch et al., 2009; Wales et al., 2011). EO is a strategic orientation, so this research considers other strategic choices that affect the EO-Performance dynamic. Moreover, extant research indicates that the strength of the EO–performance relationship depends on contextual moderators (Saeed et al., 2014). Entrepreneurship represents an organisational behavior that can be linked with the SDMP and can be more easily analysed in the organisational context (Miller, 1983; Slevin & Covin, 1990). In the case of SMEs, it has been demonstrated that the EO of the top layer of management has a direct impact on the direction of the organisation and therefore sets the stage for entrepreneurship to be exhibited at the organisational level (Schwer & Yucelt, 1984). A review of the EO-SDMP relationship within SMEs is discussed next.

### 3.3.7 The Link between Entrepreneurial Orientation and Strategic Decision-Making Processes

Although “EO has its roots in the strategy-making process literature” (Rauch et al., 2009, p. 763), questions arise as to how EO and an organisation’s strategies are related (Lechner & Gudmundsson, 2014). The fields of entrepreneurship and strategic management are becoming increasingly integrated, which point towards a ‘marriage’ of both perspectives (Kyrgidou & Hughes, 2010, p.44).

*We adopt the position that competitive strategy mediates the EO–performance relationship. Since it is reasonable to assume that there is no perfect fit between EO and competitive strategy and that the two concepts are not substitutes, it is important to understand how dimensions of EO influence which type of competitive advantage.*

*Lechner & Gudmundsson, (2014, p.40)*

The dimensions of EO have emerged in both the strategic management and entrepreneurship literature (Morris & Kuratko, 2002) and organisational performance is central to both (Ireland et al., 2003) thereby serving as a vital link in integrating both disciplines. Moreover, EO serves as a core element of strategic management (McGrath & MacMillan, 2000) and influences strategic decisions (Frese et al., 2002) and organisational performance (Becherer & Maurer, 1997). For example, it is increasingly important for SMEs to adopt entrepreneurship when formulating strategies to survive in
the dynamic nature of the current business environment (Covin & Slevin, 1989; Bouncken et al., 2014). Entrepreneurial organisations thus engage in SDMPs that enable the formulation and implementation of plans that are designed to achieve organisational objectives (Wheelen & Hunger, 2011).

It has been suggested that strategy mediates the EO-Performance relationship as organisations with a greater EO will tend to develop certain types of strategies that will influence performance differently (Moreno & Casillas, 2008). Furthermore, evidence suggests that the effects of EO are long-term (Wiklund, 1999; Zahra & Covin, 1995), and therefore require a long-term orientation for establishment and effect (Feifei, 2012). The manifestation of EO is indicated by sustained patterns of behaviour over a relevant period of time. Similarly, organisational strategies are long-term orientated as strategy is reinforced by resource commitments that are not easily reversible (Grant, 2015). Therefore, as both EO and organisational strategies are long-term, the relationship between the two constructs becomes vital for understanding organisational performance (Feifei, 2012; Lumpkin & Dess, 1996) and would help to advance the understanding of the transformation of EO into organisational performance (Wales et al., 2011). (Lechner & Gudmundsson, 2014, p. 54) added that future research “investigate the different configurations of EO and their relationships with strategy and organisational performance”. A review of the SDMP is presented next.

3.4 Strategic-Decision Making Process

3.4.1 Definitions of Strategy

Strategy in organisations is viewed as being ‘critically important’ (Foster, 1993, p.123). Every organisation must have a strategy, because otherwise “it is without direction in an increasingly turbulent economic, and politically charged, environment” (Knights & Morgan, 1991, p.251). An organisation with a well-articulated strategy can achieve a sustained competitive advantage over organisations that lack strategic vision (Fahey & Randell, 2001; Porter, 1987; Prahalad & Hamel, 2006). Despite the importance of strategy, there exist differences of opinion on what strategy is (Ford & Wang, 2014; Hafsi & Thomas, 2005; Hatton & Raymond, 1994).

The word strategy originated from the Greek word ‘strategos,’ meaning ‘general in command of an army’ (Ronda- Pupo & Guerras- Martin, 2012, p.164). Seminal writers in the field of strategy such as Chandler (1962) stated that, “Strategy can be defined as the determination of the basic long-term goals and objectives of an enterprise, and the adoption of courses of action and the allocation of resources necessary for carrying out these goals” (p. 13). Similarly, Quinn (1981, p.44) added, “A strategy is the pattern or
plan that integrates an organisation’s major goals, policies and action sequences into a cohesive whole”. Building on the work of Chandler (1962), Mintzberg (1987b) went on to define strategy as comprising a plan, ploy, pattern, position and perspective. As a plan, he stated that strategy was “developed consciously and purposely” and in “advance of the actions” (p.11). As a ploy, strategy was to be used to outwit competitors. As a pattern, strategy often reflected back to past behaviors and realised strategies. In relation to position, strategy linked the organisation to the external environment. Finally, as a perspective, strategy served as a form of ideology that was shared by the entire organisation and represented its ‘personality’. He argued that no single definition took precedence and that each competed and complemented one another.

The various definitions of strategy generally point towards an approach that is used to attain corporate goals that ensures organisational success over the long-term (Dess & Davis, 1984; Stonehouse & Pemberton, 2002; Thompson, Peteraf, Gamble, Strickland III, & Jain, 2013). It is evident, however, that a wide agreement on the definition of strategy has not materialised (Elfring & Volberda, 2001; Johnson, Scholes, & Whittington, 2008; Venkatraman & Grant, 1986). The concept of strategy is plagued by the “absence of a broad, comprehensible, and shared vocabulary” (Ronda‐Pupo & Guerras‐Martin, 2012, p.162). An increasing number of researchers have called for a renewed understanding of the concept of strategy (Clegg, Carter, & Kornberger, 2004; Quinn, 1988). Mintzberg (1987b, p.11), by contrast, supported the diversity surrounding the field of strategy management by arguing that, “the field of strategic management cannot afford to rely on a single definition of strategy”. This view was supported by many researchers (eg., Elfring & Volberda, 2001; Stacey, 2007).

Rajagopalan, Rasheed, and Datta (1993) stated that a major focus of strategy research lies either on strategy content or strategy process. Strategy content studies have concentrated on several strategic issues at both corporate and business levels, including market-product choices and diversification (Ansoff, 1965), portfolio management (BCG), strategy matrix (Miles et al., 1978), strategic positions (Porter, 1980, 1985), resources-based view (Barney, 1991; Barney & Arikan, 2001; Wernerfelt, 1984), and core competence (Prahalad & Hamel, 2006). In contrast to strategy content research, strategy process has received relatively little attention (Hafsi & Thomas, 2005; Hutzschenreuter & Kleindienst, 2006). Strategy process research deals fundamentally with how strategic changes can be implemented in organisations and how a strategic decision is made within an organisation. Accordingly, this study
focused on the SDMP, specifically in terms of how strategic decisions are made within SMEs.

SDMP has been long regarded as being crucial to organisational survival, performance (Papadakis & Barwise, 2012) and in determining the overall direction of the organisation (Quinn, 1981). An important theme in research into SDMP concerns the approach that is followed in making a decision and the structure of this process (Citroen, 2011). Several theoretical models have been offered over the years (e.g. Allison, 1999; Chaffee, 1985; Hart, 1992; Lyles & Thomas, 1988; Mintzberg, 1973) that attempted to explain the SDMP at both the individual and organisational levels. Probably two of the most dominant SDMP processes are deliberate and emergent. These are discussed next.

3.4.2 Deliberate and Emergent Strategy Views

Porter, (1996, p.64), asserted that strategy “means deliberately choosing a different set of activities to deliver a unique mix of value.” Many researchers argued that a deliberate strategy was achieved through a formal planning process, which led to the view of strategy as a plan (Andrews, 1971; Chandler, 1962; Mintzberg, 1987b, 1994a, 1994b; Mintzberg & Waters, 1985). A deliberate strategy is therefore a strategy that is first carefully formulated and then implemented by an organisation. Many studies have found that a deliberate strategy resulted in higher organisational performance (eg., Bailey et al., 2000; Bracker et al., 1988; Hart, 1992; Krauss et al., 2005; Van Auken & Sexton, 1985). The quantitative study by Verreynne (2006) investigated how the different approaches to strategy utilised by 477 SMEs in New Zealand influenced their organisational performance. They found that deliberate strategies employed by SMEs exhibited the strongest relationship with performance.

Mintzberg (Mintzberg, 1978, 1987b, 1994a, 1994b, 1994d), in contrast to the deliberate strategy, adopted a more emergent view of strategy. Mintzberg, (1987a) had postulated that strategy “can form as well as be formulated” (p.68). The definition of an emergent strategy therefore requires the absence of intentions (Thomas, McGee, & Wilson, 2010). Mintzberg (1994a) further emphasised that formulation and implementation merged in the emergent process.

... firms must increasingly build flexibility into their strategies, replace the arbitrary separation between planning and implementation by learning behavior, learn to detect weak signals of forthcoming events, and, on occasion, be prepared to deal with strategic surprises

Ansoff, Kirsch, & Roventa (1982, p.238)
The importance of emergent strategy has long been recognised (Mirabeau & Maguire, 2014) although the strategy literature emphasised deliberate rather than emergent strategy (Bower & Gilbert, 2005). The need for speed and flexibility in the dynamic global environment has resulted in the growing acceptance of the idea of emergent strategies (Adler, 2011; Mariotto, 2000; Placet & Branch, 2002). Hamel (2009, p.92) recommended that organisations adopt emergent strategies in order to succeed in a “volatile and unforgiving environment.” The adoption of an emergent strategic approach in organisations is supported by many studies (e.g., Beaver, 2007; Mazzarol, 2005; Orpen, 1985). In a quantitative study aimed at 5332 managers from 937 organisations in the United Kingdom (UK), Bailey et al. (2000) had also hypothesised that emergent strategies resulted in higher organisation performance. Despite the arguments for a more emergent strategy in organisations, there is increasing recognition that organisations use more than one approach in combination in developing organisational strategies.

Figure 3: Types of Strategies

Strategy could therefore be viewed as a pattern of deliberate and emergent actions that results in the reality of strategy implementation and realisation (Mintzberg, 1978, 1979, 1987a, 1987b, 1990a, 1994c; Mintzberg & Waters, 1985). Generally, Mintzberg points to key distinctions between intended and realised strategies. Intended strategies that get realised are termed deliberate. Intended strategies that do not get realised due to possibilities entailing unrealistic expectations, misjudgments and/or environmental changes during implementation are termed unrealised strategies. Mintzberg further pointed out that the realised strategy of an organisation can strongly differ from the
intended strategy and the extent to which an intended strategy can be realised is closely related to the strategic processes that exist within an organisation. Lastly, realised strategies that were never intended, are termed emergent strategies. The different types of strategies are reflected in Figure 3.

Based on the above discussion, both deliberate and emergent strategies are important in an organisation as deliberate strategies focus on direction and control while emergent strategies involve responding to an unfolding patterns of action (Mintzberg & Waters, 1985). The deliberate and emergent views therefore represent the two extremes of the strategy continuum (Hart, 1992; Verreynne & Meyer, 2010). The deliberate approach represents ‘analysis’ and that the emergent approach is more evident of ‘synthesis’ (Mintzberg, 1994a; Mintzberg, 1994, p.107). Ahenkora and Peasah (2011), in citing Giligan and Wilson (2003), concurred with the postulations of Mintzberg and Waters (1985, p.262) who proposed that organisations pursue ‘umbrella strategies’ where the broad outlines are deliberate while the details are allowed to emerge within them. The strategy process can thus be viewed as being ‘multidimensional in nature’ (Bailey & Johnson, 2001, p.212). Mintzberg and Waters (1985) concurred as much when he referred to strategy as one that “walks on two feet, one deliberate, the other emergent” (p.271). In view of the various perspectives of strategy, Mintzberg (1990b) proposed ten schools of thought, which provided an overview of the different approaches of strategy and are discussed next.

3.4.3 An Overview of Mintzberg’s 10 Schools of Thought
Throughout its history, various schools of thought have developed, leading more recently to attempts to identify key concepts, classify and define the field of strategy (Furrer, Thomas, & Goussevskaja, 2008; Nerur, Rasheed, & Natarajan, 2008; Ramos - Rodríguez & Ruíz - Navarro, 2004). This classification of strategy schools contributes to a deeper understanding of how strategy and systems are perceived (Sarbah & Otu-Nyarko, 2014). Accordingly, Mintzberg provided an extensive review of the strategy field and grouped his perspectives under ten different schools of thought (Araujo & Easton, 1996; Mintzberg, 1990b; Mintzberg, Ahlstrand, & Lampel, 1998), as presented in Table 5.
Table 5: Mintzberg’s Ten Schools of Thought

<table>
<thead>
<tr>
<th>School of Thought</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Design School</td>
<td>Strategy formulation as a process of conception</td>
</tr>
<tr>
<td>The Planning School</td>
<td>Strategy formulation as a formal process</td>
</tr>
<tr>
<td>The Positioning School</td>
<td>Strategy formulation as an analytical process</td>
</tr>
<tr>
<td>The Entrepreneurial School</td>
<td>Strategy formulation as a visionary process</td>
</tr>
<tr>
<td>The Cognitive School</td>
<td>Strategy formulation as a mental process</td>
</tr>
<tr>
<td>The Learning School</td>
<td>Strategy formulation as an emergent process</td>
</tr>
<tr>
<td>The Power School</td>
<td>Strategy formulation as a process of negotiation</td>
</tr>
<tr>
<td>The Cultural School</td>
<td>Strategy formulation as a collective process</td>
</tr>
<tr>
<td>The Environmental School</td>
<td>Strategy formulation as a reactive process</td>
</tr>
<tr>
<td>The Configuration School</td>
<td>Strategy formulation as a process of transformation</td>
</tr>
</tbody>
</table>

**Source:** (Mintzberg et al., 1998)

A school of thought is understood to be “the range of thought of a specific group of researchers, which has crystallised within the field of strategic management” (Brown, 1993 cited in Elfring & Volberda, 2001). The ten schools of thought were categorised into the three core areas of prescriptive, descriptive and mixed approaches. The prescriptive approaches are discussed next.

### 3.4.4 Prescriptive Approaches

The prescriptive schools, identified by Mintzberg et al. (1998), characterise strategy as a rational process of strategy formulation. Strategy makers, termed ‘strategists’ by (Mintzberg, 1990b), are usually members of the top management of the organisation. Strategic choices are made through the utilisation of analytical tools such as the Strengths, Weaknesses, Opportunities and Threats (SWOT) Analysis (Learned, Christensen, Andrews, & Guth, 1965) to study the environment (Mintzberg et al., 1998). It thus involves a “thorough diagnosis of the organisation and its environment” (Calori, 1998, p.285). Furthermore, there is a divide between the strategy formulation and implementation stages (Mintzberg et al., 1998). Entailing a more deliberate approach to strategy formulation, the Design, Planning and Positioning Schools fit into this category. An overview of each of the three prescriptive schools is presented next.

**Design School**

The Design School viewed strategy formulation as a conceptual process. Here, strategy formulation is regarded as a controlled process where the responsibility of strategy development lies with the Chief Executive Officer (CEO). The CEO conceptualises simple and explicit strategies that are disseminated upon development to the rest of the organisation in an informal manner. The design school therefore outlined a dichotomous relationship between strategy formulation and implementation. Critiques of this school included (Ansoff, 1991), who stated that the dynamic external environment and the need to change quickly to sustain competitive advantages over
competitors made this approach less attractive. (Mintzberg, 1990a, p.180) concurred that the school “denied itself the chance to adapt”.

Planning School

The strategy process in the Planning School is deliberate, controlled, conscious and explicit. The highly formal nature of the planning school distinguishes it from the design school. Here, strategy formation is conceptually aimed at achieving the essential fit between internal strengths and weaknesses and external threats and opportunities by means of a highly formal and systematic analysis of the organisation and its competitive environment (Andrews, 1971; Ansoff, 1965; Porter, 1980). In this school, clear and well-defined strategic goals underline precise plans and programmes (Bailey et al., 2000; Chaffee, 1985). Strategists, comprising of senior managers and/or planners, go through a rational and highly analytical SDMP (Hofer & Schendel, 1980). In this way, strategy formulation precedes strategy implementation. This form of strategy is mostly applied in organisations which are deeply controlled and integrated and which operate in rather stable and predictable environments (Fredrickson, 1983; Mintzberg et al., 1998).

Positioning School

Strategy formulation in the Positioning School is regarded as an analytical process. This school is heavily influenced by the work of (Porter, 1980). This school only considers the generic strategies as postulated by (Porter, 1980), namely low cost and differentiation, and industry analysis. Organisations are advised against developing ‘stuck in the middle’ strategies that represent compromise between lower costs and greater differentiation (Ahenkora & Peasah, 2011). The positioning school emphasises a highly formal and controlled process, involving strategies being firstly articulated before being implemented (Mintzberg et al., 1998). The positioning school is shown to favour large organisations where segmentation is more practical and formal plans are workable (Kraus & Kauranen, 2009).

3.4.5 Descriptive Approaches

According to Mintzberg et al. (1998), descriptive approaches, strategy formation and implementation occurred simultaneously with the focus on how strategies are actually developed. Emergent in nature, there is acceptance to the existence of many strategists in the organisation. Here, leaders or top management make the final decision on which strategies to undertake from the collective inputs of members of the organisation or through the study of the factors of the external environment. The
Entrepreneurial, Cognitive, Learning, Power, Cultural and Environment Schools belong to this descriptive approach and are discussed next.

The Entrepreneurial School
The Entrepreneurial School places the responsibility of developing organisational strategy to the CEO, who is seen as the entrepreneur (Feyzbakhsh, Sadeghi, & Shoraka, 2008). This school viewed strategy formation as a visionary process, taking place in the mind of the CEO, who has a vision of where the organisation has to be in future (Ackoff, 1993). The CEO is deemed to be the charismatic leader around whom the entire organisation revolved and invokes an emotive appeal that builds employees’ commitment towards the described vision (Mintzberg et al., 1998). This school shifted away from the use of analytical tools (Hofer & Bygrave, 1992). This school further encompasses both deliberate and emergent natures, where the development of organisational vision was deliberate while the flexibility allocated in attaining organisational objectives was highly emergent (Mintzberg et al., 1998).

Cognitive School
The Cognitive School views strategy formation as a mental process where strategy development is seen as an act of cognition. Mintzberg et al. (1998) proposed the four aspects of the cognitive school, namely: (1) perception, (2) concept attainment, (3) re-conception and (4) cognitive style. In relation to perception, the cognitive capabilities of the strategist were limited by comparison to the complexity of the environment, resulting in the restricted, biased and distorted processing of information. Concept attainment suggested that strategies were formulated in the mind of the strategist “in the form of concepts, maps, schemas and frames that shape how people deal with inputs from the environment” (Mintzberg et al., 1998, p.170). Re-conception referred to the changing of strategies that had already been formed in the mind while cognitive styles stated that strategists vary in their ‘cognitive orientations’ (Mintzberg, 1990b, p.144) in adapting strategic styles. Mintzberg (1990b) further acknowledged that this school was relatively undeveloped and too complicated.

Learning School
The Learning School regards strategy formation as an emergent process, where the management of an organisation pays attention to what does and does not work over time, and incorporates ‘lessons learnt’ into the organisation’s overall plan of action (Mintzberg, 1990b, p.176). Based fundamentally on the seminal works of Lindblom (1959) and Quinn (1981) on learning in organisations, this school views strategy as an adaptive, incremental and a complex learning process (Lindblom, 1959; Mintzberg,
It further contends that there are many strategists within an organisation, leading to strategy formulation and implementation becoming indistinguishable. Advocates of the learning school argued that the complexity of organisational environments made it difficult to consider all strategic options as suggested by the prescriptive schools (Lindblom, 1959). According to this school, the role of the leader is thus to manage the process of strategic learning as opposed to developing deliberate strategies.

**Power School**
In the Power School, organisations are seen as political entities where powerful stakeholders influence strategies (Feldman, 1986; Pfeffer & Salancik, 2003). In this school, strategies are decided depending on the leaders’ abilities to convince others (Swayne, Duncan, & Ginter, 2012). Strategy formation is therefore a process of negotiation in which the strongest decision-makers can successfully enforce their strategy (Pfeffer, 1992). Political behavior is observed in individuals or groups within an organisation when making claims “against the resource-sharing system of the organisation” (Pettigrew, 1977, p.81). The pursuit of own interests and agenda results in emergent strategies that, far from being optimal, reflect the power structure of the company with the strongest members brought into positions of leadership (Mintzberg, 1990b, p.162).

**The Cultural School**
In the Cultural school, strategy formation is seen as a social process rooted in culture (Arndt, 2011; Samuels, 2006). Derived from the organisation’s history (Schein, 1985), the tools used in this school include organisational values, beliefs and corporate culture. Mintzberg (1990b) recognised that the corporate culture, however intangible and ill defined, was an important variable that influenced the collectivist and integrated nature of the organisation. Managers may be influenced by a dominant organisational culture in determining their strategy (Mintzberg et al., 1998). The Cultural School has important implications for strategy formation as it enables decisions to be made in a way that makes sense, and provides a guide to appropriate behavior (Gioia & Poole, 1984; Weick Karl, 1979). The development of a common perspective leads to the forming of ‘common vocabulary’ (Pfeffer, 1992, p.42) or “logics of action” (Araujo & Easton, 1996, p.373) that enables consistency and coordination of organisational behavior.
Environmental School

In the Environmental School, strategy formation is seen as a reactive process where the organisation has to respond to the challenges imposed by the external environment (Mintzberg et al., 1998). The turbulent nature of the organisation’s environment makes predicting future outcomes difficult (Postma & Liebl, 2005). Organisations must therefore interpret and respond to elements in their environment that are fixed, and attempt to shape the remaining elements to their advantage (Cyert & March, 1963; Hannan & Freeman, 1977). The performance of an organisation is thus a barometer of its ability to face environmental change (Freel & Robson, 2004). There is a risk of failure associated with a possible reduction of an organisation’s fit with its environment (Mintzberg et al., 1998). This led to the rise of tools such as scenario planning (Wack, 1985) in trying to understand uncertainty and developing scenarios to prepare for a range of alternative futures (Cornelius, Van de Putte, & Romani, 2005).

3.4.6 Mixed Approach – Configuration School

The configuration school deploys strategy as a process of organisational transformation and in which all previous schools are considered (Elfring & Volberda, 2001; Shekhar, 2009). It is therefore an integration of both deliberate and emergent approaches (Mintzberg et al., 1998). Accordingly, Bailey et al. (2000) termed the other schools as unitary and remarked that the configuration school does not see the other nine schools as conflicting, but complementary because strategy making is multi-faceted. This school views strategy development as being guided towards an optimal configuration dependent on place and time or stage of the organisation in its life cycle (Kraus & Kauranen, 2009). According to this school, strategy formation is seen as a continuous process of transforming the organisation from one type of decision-making structure to another whilst ensuring stability (Mintzberg et al., 1998). Here, rather than recommending one best way to formulate and implement strategies, organisations adopt particular strategies that match a specific context for a period of time (Mintzberg et al., 1998).

In summarising the ten schools of thought, Mintzberg et al. (1998) acknowledged the varying levels of prominence of each school during different time periods. Most importantly, the ten schools of thought are neither deliberate nor emergent. In reality, the strategy process is likely to be a combination of one or more approaches. Mintzberg (1990b) metaphorised his ten schools of thought with a tale entitled ‘The blind men and the elephant’. He associated the wide area of strategy to an elephant, which was yet to be fully conceptualised by businesses. He referred to businesses as being blind:
“We (the strategy makers) are the blind people and strategy formation is our elephant. Since no one has had the vision to see the entire beast, everyone has grabbed hold of some part or the other and ‘railed on in utter ignorance’ about the rest. We certainly do not get an elephant by adding its parts. An elephant is more than that. Yet to comprehend the whole we also need to understand the parts …”

Mintzberg et al. (1998, p. 3).

Thus the ten schools, in totality, represent strategy according to Mintzberg et al. (1998) where a combination of one or more schools by businesses reflect the manner in which strategy is approached in businesses. An overview of the ten schools is presented in Table 6.
Table 6: Overview of Mintzberg’s Ten Schools of Thought

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Design</th>
<th>Planning</th>
<th>Positioning</th>
<th>Entrepreneurial</th>
<th>Cognitive</th>
<th>Learning</th>
<th>Political</th>
<th>Cultural</th>
<th>Environmental</th>
<th>Configurational</th>
</tr>
</thead>
<tbody>
<tr>
<td>Base Disciplines</td>
<td>None</td>
<td>(some links to urban planning, systems theory, and cybernetics)</td>
<td>Economics (Industrial organisation) Military history</td>
<td>None</td>
<td>Psychology (Cognitive)</td>
<td>None</td>
<td>Political science</td>
<td>Anthropology</td>
<td>Biology</td>
<td>History</td>
</tr>
<tr>
<td>Central Actors</td>
<td>Chief Executive</td>
<td>Planners</td>
<td>Analysts</td>
<td>Leader</td>
<td>Brain</td>
<td>Whoever can learn</td>
<td>Whoever has power</td>
<td>Collectivity</td>
<td>Environment</td>
<td>All those to the left, in context</td>
</tr>
<tr>
<td>Leadership</td>
<td>Dominant</td>
<td>Responsive to procedure</td>
<td>Responsive to analysis</td>
<td>Dominant</td>
<td>Intuitive</td>
<td>Source of Cognition</td>
<td>Responsive to initiatives or to own learning</td>
<td>Weak, at best a player (micro); at helm (macro)</td>
<td>Part of collectivity</td>
<td>Acquiescent</td>
</tr>
<tr>
<td>Strategy</td>
<td>Perspective, Unique</td>
<td>Explicit Plan, decomposed into sub-strategies and programs</td>
<td>Explicit generic positions (economic and competitive) and ploys</td>
<td>Implicit perspective (vision), personal and unique (niche)</td>
<td>Mental perspective (individual concept)</td>
<td>Implicit patterns, often collective</td>
<td>Ploys and positions, overt and covert: subunit (micro) or organisational (macro)</td>
<td>Collective perspective, Unique and usually implicit</td>
<td>Specific Position</td>
<td>All those to the left, in context</td>
</tr>
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</tbody>
</table>

**Source:** (Mintzberg et al., 1998)
3.4.7 Schools of Thought Used in this Study

This study focused upon on all the prescriptive schools (design, planning and positioning) and the learning school of thought. The Entrepreneurial School, despite its suitability, was not included in this study as this school encompasses both deliberate and emergent SDMPs. The inclusion of the Entrepreneurial School together with the chosen schools would have therefore made the investigation of the presence of either a deliberate or emergent SDMP within Singapore SMEs, in line with this study, difficult to analyse. In addition to the overview presented in Section 3.4.5, a detailed review of each of these schools is next presented to justify the inclusion of these schools in this study.

**Justifying the Use of the Prescriptive Schools**

The Design School viewed strategy formulation as a conceptual process where strategy formulation is controlled and under the responsibility of the CEO. Possessing formal training in the process of strategy formulation, the CEO conceptualises simple and explicit strategies that are disseminated upon development to the rest of the organisation in an informal manner. Mintzberg et al. (1998) referred to the analysis of external and internal environments as leading to the development of distinctive competencies and key success factors. This would subsequently lead to the development of an organisational strategy that was unique to attain a sustainable competitive advantage. The non-intuitive nature of the design school requires the use of analytical tools such as the SWOT analysis to study the internal and external environments of the organisation. The strategy to be formulated must therefore attain a fit between the internal capabilities and external possibilities of the organisation. Upon the formulation and subsequent evaluation of a range of alternative strategies, the strategy considered optimal is chosen and implemented. Although simplistic in its approach, there is however little room for emergent strategies under this school of thought.

In addition to the aforementioned Design School, the next school to be considered in this study is the Planning School. This school is similar to the Design School in terms of the process being deliberate, controlled, conscious and explicit with a disassociation between strategy formulation and implementation. The key differences between the planning and design schools lie in the highly formal nature of the planning school and the utilisation of a specialised strategic planning department. This planning department, comprising of highly educated planners, report to the CEO and are in charge of executing the strategies. The CEO decides on the optimal strategy based on the recommendations of the strategy department. Similar to the design school, an analysis
of the external and internal environments is then executed utilising tools such as the SWOT analysis. Scenario analysis is also often used to study the potential future states of the organisation and detail possible measures in relation to potential future environmental changes. The subsequent strategy evaluation stage utilises analytical tools such as return on investment and risk analysis to identify the optimal strategy. The highly formal nature of the planning school is evident in the operationalisation of the chosen strategy, which involves the formalisation of a series of comprehensive long-term (5 years), mid-term (3 years) and short-terms (12 months) plans. Detailed attention is paid to every entity within the organisation, which ultimately provides the organisation with a great deal of control as the strategy is implemented.

The final prescriptive school to be used in this study is the Positioning School. The key difference between the positioning school and that of the other prescriptive schools lies with the choice of alternate strategies. While the design and planning schools developed various alternate strategies from which the optimal strategy was chosen, the positioning school only considered the generic strategies as postulated by Porter (1980). According to Porter (1980), there are two generic business strategies: cost leadership or differentiation. Under cost leadership, an organisation emphasises costs, efficiency, reliability, execution, or some combination thereof (Porter, 1980; Thornhill & White, 2007). Under a differentiation strategy, an organisation emphasises product leadership, innovation, flexibility, responsiveness, or some combination thereof (Porter, 1980; Thornhill & White, 2007). The choice of the optimal generic strategy is made primarily through the analysis of the industry and competitors utilising the Porter (1979) Five Forces Model. The positioning school mirrored the planning school in terms of formality and is similar to both prescriptive schools in terms of strategy formulation being a controlled process, involving the analysis of the external environment and in strategies being firstly articulated before being implemented. The strategy developer, in this school however, is more of an analyst of the empirical data gathered from the competitive and industry analysis.

There were several reasons for choosing the aforementioned prescriptive schools in this study. Firstly, Mintzberg et al. (1998) themselves had stated that the positioning school has gained the most prominence amongst all the schools. Next, the focus on the prescriptive schools of thought was justified as they indicated the presence of a more planned approach to strategy within Singapore SMEs. The planning and positioning schools, in particular, focused on the formal nature of the deliberate approach to strategy process in Singapore SMEs while the design school focused on the informal nature of planning that might be present in Singapore SMEs. Studying
both the formal and informal nature of planning in SMEs was important as some studies pointed to formalised strategy processes in SMEs (Naidu, 2013; Wiesner & Millett, 2012) while others suggested that it was highly informal (eg., Beaver & Jennings, 2000; Verreynne & Meyer, 2010).

Studies on the use of deliberate strategies in SMEs have reported mixed findings. The percentage of SMEs that engaged in strategic plans, for example, ranged from 12% (Frohlich & Pichler, 1988 cited in Kraus, Reiche, & Reschke, 2006) at the lower extreme, and 73% (Scholz, 1991 cited in Kraus et al. 2006)) at the higher extreme. In terms of written strategic plans, Gibson and Cassar (2002) found more than 30% of SMEs utilising written strategic plans while Leitner (2001), cited in Kraus et al. (2006), found 62% of SMEs doing likewise. Furthermore, the conduction of competitive analysis and the use of traditional strategic planning tools is common in modern organisations (Aldehayyat & Anchor, 2008; Elbanna, 2007; Frost, 2003; Gunn & Williams, 2007; Hunter & O'Shannassy, 2007). Leitner (2001), for example, found the SWOT analysis to be the most frequently used strategic tool at 55% of the SMEs (Kraus et al., 2006). The high use of such deliberate approaches to strategy warranted the use of the prescriptive schools in this study. Furthermore, Naffziger and Mueller (1999) reported in their findings that top management and the CEO determined the plans for SMEs, which was in line with the postulations of the Design School.

**Justifying the Use of the Learning School of Thought**

In addition the prescriptive schools of thought, the learning school of thought was further included in this study. Based fundamentally on the seminal works of Lindblom (1959) and (Quinn, 1981) on learning in organisations, this school argues that there are many strategists within an organisation, leading to strategy formulation and implementation becoming indistinguishable. Mintzberg et al. (1998) concurred that informed individuals from anywhere in the organisation can contribute to the strategy process and that such incremental changes lead to a convergence and contribution toward major shifts in the strategic direction of the organisation over time (Mintzberg et al., 1998, p.178):

> A strategist can be a mad scientist working in a far-flung research laboratory who comes up with a better product. A group of salespeople who decide to flog one product and not others can redirect a company’s market positions. Who better to influence strategy than the foot soldier on the firing line, closest to the action.

Mintzberg et al. (1998) discussed the strategic thrusts that promoted organisational learning that aided in strategy formulation. These include learning as knowledge
creation, dynamic capabilities and chaos theory. The authors, whilst being strong advocates of this particular theory, cited a few disadvantages associated with this school of thought. Firstly, not having a central strategic plan and being dependent on a collection of strategies may result in the lack of convergence into a clear strategy. This lack of clearly articulated strategies thus gives rise to a lack of direction, which Mintzberg et al. (1998) referred to as “no strategy” (p.224). Next, Mintzberg et al. (1998) referred to “lost strategy” (p.226) as an overemphasis on learning that may undermine a coherent and perfectly viable strategy. Termed strategic drift, organisations may move away from established strategies, while constant change is both disruptive and destructive. Lastly, the authors cautioned against “wrong strategy” (p.227), which encourages the emergence of unintended strategies through groupthink. Learning if not executed effectively in organisations can thus be expensive, time consuming and take employees away from other responsibilities and duties.

This school of thought was included in this study for a number of reasons. Firstly, Mintzberg et al. (1998) had postulated that interest in the Learning School was likely to increase in future. They had stated that the difficulty associated with forecasting the external environment due to its evolving nature, the demerits associated with the separation of the strategy formulation and implementation processes as well as complexity and curbs on innovation and creativity resulting from high formalisation were the main arguments against the Planning School. They argued that the Positioning School, in detaching the strategy process from the rest of the employees and delegating it to executives concerned with crunching numbers, impacted negatively on the overall commitment to the proposed strategy. The Learning School, by contrast, represented a more emergent approach to strategy (Mintzberg, 1990b).

The Learning School was representative of the view of many studies that indicated that the strategy process in SMEs was emergent (Harris, Forbes, & Fletcher, 2000; Mazzarol & Reboud, 2006; Verreynne, 2006). Robinson and Pearce (1983), for example, investigated the impact of formalised, or deliberate, strategic planning in 85 small banks in America. Their quantitative study found that there was no significant difference between formal planning banks and non-formal planning banks. Aguilera-Enríquez, González-Adame, and Rodríguez-Camacho (2011) concurred that strategic planning was nonexistent in most SMEs. The fewer resources typically found in smaller enterprises result in the absence of formal planning mechanisms (Gibb & Scott, 1985; Robinson & Pearce, 1984; Verreynne, 2006). Furthermore, there is a lack of formalisation practices and restrictions on resources and time in SMEs (Berry, 1998; Risseeuw & Masurel, 1994). As a result, the strategy process in SMEs is often based
on experience, intuition or guessing (Welter, 2003 cited in (Kraus et al., 2006)). The incorporation of this school of thought would therefore identify if such an emergent approach to strategy was prevalent in Singapore SMEs. In highly dynamic competitive environments, organisations can achieve competitive advantage with quick response to the environment and renewed strategic orientation (Hitt et al., 2012). Empirical findings as well as theoretical arguments on strategy suggest that it is influenced by environmental factors (Gruber, 2007; Talaulicar, Grundeil, & Werder, 2005). Since the SDMP of an organisation is influenced by environmental conditions, the following section discusses the environment (Sandberg & Hofer, 1988; von Gelderen, Frese, & Thurik, 2000).

3.5 Environment

With increasingly intense competition, shrinking product cycles, accelerated technological breakthroughs and greater globalisation, the business environment may best be described as being in a continual state of variation (Asch & Salaman, 2002; Nadkarni & Herrmann, 2010; Ward & Lewandowska, 2005). Environmental uncertainty may result from changes in the external environmental conditions faced by organisations (Dess & Beard, 1984). Given such ever-changing environmental conditions, organisations must strive to gain and sustain a competitive advantage, either by influencing their environment or by responding to changing environmental demands (Baregheh, Rowley, & Sambrook, 2009; Bradley, Shepherd, & Wiklund, 2011; Shinkle, Kriauciunas, & Hundley, 2013).

Scholars have argued that the external environment affects organisational performance (Bain, 1956; Rumelt, 1991; Schmalensee, 1985). The environment, however, may not affect organisational performance directly; rather, it may stimulate strategic behaviors that, in turn, influence organisational performance (Porter, 1980). The environment is, therefore, a key factor impacting the way in which strategies are developed (Covin, Slevin, & Heeley, 2000; Miles, Covin, & Heeley, 2000; Wiklund & Shepherd, 2005). Many researchers have supported the link between the external environment and organisational strategy (Boyd, Dess, & Rasheed, 1993; Covin & Slevin, 1989; Wiklund & Shepherd, 2005). Accordingly, the dynamics of the environment have been found to be an important factor moderating the SDMP-Performance relationship (Bourgeois III & Eisenhardt, 1988; DeSarbo, Anthony Di Benedetto, Song, & Sinha, 2005; Fredrickson & Mitchell, 1984; Rajagopalan et al., 1993). Only those organisations that apply the appropriate strategic orientation in a specific environment may be able to transform advantages provided by the environment into above-average performance levels (Rosenbusch, Rauch, & Bausch, 2013).
The environment of an organisation is composed of all the forces external to the organisation that directly or indirectly influence its operations and that, in turn, may be influenced by the organisation (Thompson, 1967). In the existing literature, the external environment has been conceptualised in a number of ways (Aloulou & Fayolle, 2005) with turbulence (Khandwalla, 1977); hostility, heterogeneity, and dynamism (Miller, 1983); volatility (McKee et al., 1989); munificence (Dess & Beard, 1984) and complexity (Aldrich & Wiedenmayer, 1993) being some of the most common. However, the various terms used to categorise the environment fall into the three major categories of instability, complexity and munificence (Dess & Beard, 1984). Dynamism and hostility tend to be measured most (Lumpkin & Dess, 2001; Moreno & Casillas, 2008; Wiklund & Shepherd, 2005). Each environmental dimension offers different challenges and requires different resources to respond to such challenges. Environment in this study comprised of the three dimensions of instability, complexity and munificence, which are discussed next.

**Instability**

Environmental instability, or dynamism, is the environmental dimension most widely studied in the SDMP literature (Rajagopalan et al., 1993). Environmental instability considers (1) the level and speed of changes in the environment as a result of changes in market conditions, (2) the emergence of new markets, (3) the emergence of new products, (4) technological developments, and (5) changes in consumer preferences. The instability in the environment caused by the aforementioned changes creates deficits in information regarding cause and effect relationships between environmental factors and outcomes (Duncan, 1972; Sirmon, Hitt, & Ireland, 2007). Environmental instability is often used as a contingent predictor between strategy making and organisational performance (Hough & White, 2003). Generally for organisations, highly stable environments change less and thus offer greater certainty for competing organisations to assess the current and future state of the environment (Milliken, 1987). Highly instable environments generate more opportunities for value creation (Rosenbusch et al., 2013; Zahra, 1993).

SMEs often have limited access to information and resources to respond to changes in an unstable environment. Therefore, unstable environments and lack of knowledge and information about environmental changes increase the level of environmental uncertainty (Eckhardt & Shane, 2003). Studies considering environmental instability have focused on the role that such environments have on the SDMP. Empirical findings have been contradictory. Some studies suggested that using deliberate strategies in such environments was counterproductive because it slowed down
decisions when they need to be made at a fast pace (Fredrickson & Iaquinto, 1989; Hough & White, 2003). In contrast, other studies suggested that organisations in such environments that make more comprehensive decisions (deliberate) performed better than those that were more reactive (emergent) (Bourgeois III & Eisenhardt, 1988; Talaulicar et al., 2005). Therefore it is unclear if instability in the environment requires deliberate or emergent strategy processes.

Complexity
Environmental complexity, or heterogeneity, refers to the diversity of environmental elements that an organisation has to deal with and the sophistication of knowledge and information necessary to act in a specific environment (Dess & Beard, 1984; Sharfman & Dean, 1991). Research suggested that complex environments can be identified by the number and diversity of inputs (suppliers) and outputs (products) with which an industry deals (Dess & Beard, 1984). Industries with only a few competitors are also said to be less complex as a less concentrated market will be characterised by more new entrants and higher levels of competition in which organisations may seek to diversify to gain advantages over their competition (Keats & Hitt, 1988). In complex environments, the amount of information and resources necessary to compete is greater because organisations will find it more challenging to locate resources and place or dispose of products in the market (Dess & Beard, 1984). Complex environments require the monitoring of diverse information, call for intensive coordination efforts, and can make strategic decisions difficult (Child, 1972; Rosenbusch et al., 2013). The perception of a complex environment and the perception of lack of access to information and resources to deal with the diversity and complexity of resources and information, may limit the ability to use deliberate SDMPs. In a concentrated industry, the complexity of the environment would increase the need for strategic activities such as strategic planning (Aldrich, 2008).

Munificence
Munificence, or hostility and level of competition, is typically understood as the extent to which the environment can provide the resources organisations need to perform in such environments (Aldrich, 2008; Dess et al., 1997). In a munificent environment, where resources are plentiful, organisations may be more able to determine and pursue goals rather than focus on survival (Castrogiovanni, 1991). Research also suggested that munificent environments enable organisations to generate slack resources that may provide organisations with a cushion when there is scarcity in the market (Dess & Beard, 1984; Keats & Hitt, 1988). Resource availability reduces selective pressures in the environment and increases opportunity by allowing a greater
diversity of strategies (Brittain & Freeman, 1981). High levels of deliberation in the strategy process may also lead to delays in the decision process that prevent the organisation from taking advantage of the opportunities for increased sales in highly munificent environments. High munificence in environments therefore necessitates greater discretion of managers in implementing strategic choices that improve performance (Finkelstein & Hambrick, 1990). Thus, a munificent environment requires strategic discipline (Porter, 1980) as wrong strategic decisions could even endanger the survival of an organisation.

In a low-munificent environment, by contrast, the environment becomes more competitive (Dess & Beard, 1984; Hambrick, 1983; Porter, 1980). Such conditions increase the risk of remaining in such markets and, therefore, organisations are more likely to diversify and move into new markets (Hannan & Freeman, 1977). Dess and Beard (1984) suggested that market growth, in terms of sales, is a clear indicator of munificence. If the environment has abundant resources for organisations to perform, it is more likely that organisations in that industry will be able to grow, since growth is easier to achieve in resource-rich environments (Dess & Beard, 1984; Tushman & Anderson, 1986). Resource shortages in the environment have been shown to constrain strategic planning and limit the flexibility of organisations (Kobberg, 1987; Pfeffer & Salancik, 2003). Reduced strategic options lead to fewer opportunities for organisations to gain a competitive advantage in the market (Miller & Friesen, 1982). In summary, low munificence environments are characterised by limited access to resources to compete in an industry. The perception of a low munificent environment and the perception of lack of access to the resources to compete may limit the ability to use deliberate SDMPs.

The three dimensions discussed above represented the uncertainty of the environment faced by SMEs. A consistent set of strategic processes, resulting from a consistent set of assumptions, deliberate or emergent, may not be appropriate in all environmental contexts (Fredrickson & Iaquinto, 1989; Fredrickson & Mitchell, 1984). As there is no single strategy that is applicable to all types of circumstances, the effectiveness of a strategy is therefore contingent upon business environmental characteristics. For example, Fredrickson and Mitchell (1984) found strategic processes resulting from deliberate formal processes more appropriate in a stable environment. Strategic processes consistent with emergent strategic processes, on the other hand, have been said to be more productive in a complex and dynamic environment (Fredrickson & Mitchell, 1984; Mintzberg, 1973; Mintzberg et al., 1998; Mintzberg & Waters, 1985). These studies suggest that the nature of the strategy process (deliberate or emergent)
depends on the level of uncertainty of the environment.

It was found that the impact of the environment on the strategy process of organisations and subsequent performance has been studied in nine PhD theses (PQDTG, 2015). Several studies explored the moderating role of the environment on organisational performance (e.g., Campbell, 2010; George, 2007; Gustafson, 2003). The moderating role of the external environment on the relationship between strategy and performance was also consistent with existing literature (e.g., DeSarbo et al., 2005; Golder & Tellis, 1993; Zahra & Covin, 1995). By exploring the moderating effect of the environment on the relationship between strategy and company performance, as suggested by Hitt, Ireland & Goryunov (1988), this research hopes to provide a better understanding of strategies that impact performance in different environments. Discussed next is organisational performance.

3.6 Organisational Performance

Performance measurements require a complete and reliable method because managers make decisions based on organisational performance (Delen, Kuzey, & Uyar, 2013; Oyewobi et al., 2016). Although precise measurement is crucial to understanding organisational performance, there has been no agreement among entrepreneurship scholars on the assignment of an appropriate set of measurements (Murphy et al., 1996; Vij & Bedi, 2012; Yusuf, 2002). Researchers have posited that multiple dimensions of organisational performance should be used in research (Lumpkin & Dess, 2001; Natarjan Venkatraman & Ramanujam, 1986; de Waal, 2012). Multiple measures incorporating both financial and non-financial goals enable a broader, more comprehensive conceptualisation of organisational performance (Murphy et al., 1996). Brews and Hunt (1999) noted that performance must include both objective and subjective measures. The former relies on secondary or accounting data, and the latter is based on respondents’ perceptions or self-reported data.

Objective criteria for performance includes financial measures such as sales growth, return on assets/sales and share price performance (Fredrickson & Mitchell, 1984; Pearce, Freeman, & Robinson, 1987). Financial measures of performance are generally popular due to the ease with which they can be administered (Gibb & Davies, 1990). Such financial measures, however, are increasingly viewed as unsatisfactory indicators of performance as organisational performance is a multi-faceted construct and must include other non-financial criteria (Bagorogoza & de Waal, 2010; Machin & Stewart, 1990; Walker & Brown, 2004) that lead to the creation of a sustainable competitive advantage for an organisation (Porter, 1985). Non-financial performance
measures may include market share, customer retention and reputation (Antoncic & Hisrich, 2003). Financial performance measures in SMEs are further subjected to the non-homogeneity of data due to the use of different evaluation methods (Bracker & Pearson, 1986).

Subjective performance measures include respondent ratings of organisational effectiveness, quality, and responsiveness (Chakravarthy, 1986; Hart & Banbury, 1994). Some researchers have suggested that subjective measures are less reliable than objective measures (eg., Ansoff, Avner, Brandenburg, Portner, & Radosevich, 1970; Sapienza, Smith, & Gannon, 1988). Others, however, have implied that subjective measures were generally consistent with objective measures (e.g., Dess & Robinson, 1984; Pearce et al., 1987; Venkatraman & Ramanujam, 1986). In addition, more respondents are expected to answer subjective, rather than objective, questions as objective measures such as financial details are sensitive (Runyan, Droge, & Swinney, 2008). Researchers studying SMEs, for example, have found it almost impossible to obtain objective performance measures (Dess & Robinson, 1984; Sapienza et al., 1988). The use of subjective measures is therefore a valid alternative when objective measures are not obtainable (Venkatraman & Ramanujam, 1986).

The inclusion of performance in the study of SMEs is in line with the existing literature’s investigations of the link between organisational performance and various determinants such as the strategy process of organisations (Bracker et al., 1988). However, the impact of strategy-making processes on organisational performance has been widely investigated in large organisations and to a lesser extent in SMEs (Verreyinne & Meyer, 2010). The study of the performance of SMEs, has been conducted in 19 PhD theses (PQDTG, 2015). Researchers have investigated the determinants of SME performance, such as the strategy process, EO and the environment (eg., Baker, 2007; Duran, 2015; Ruiz, 2008). Constructs commonly used in these studies to define performance included both financial measures such as return on assets (ROA), return on investments (ROI) and profitability as well as non-financial measures such as quality, image and perceived satisfaction of stakeholders. The non-financial measures included operational efficiency, quality of customer service and image. Presented next is the summary of this study.

**3.7 Summary**

This chapter provided an extensive review of the relevant academic literature surrounding the research aims of this thesis. An overview was firstly provided on the literature surrounding SMEs in relation to their various definitions, increasing
contribution to national economies worldwide and the high failure rates typically associated with such organisations. The discussion on SMEs was followed through with a discussion on EO.

This chapter has discussed one of the salient concepts within strategic management and entrepreneurship, i.e., entrepreneurial orientation (EO). It presented recent developments in the EO concept. Each of the dimensions of EO, namely autonomy, innovativeness, risk-taking, proactiveness and competitive aggressiveness was also explained. The chapter also presented arguments about the relationship between EO and organisational performance and the SDMP respectively. This was then followed by a discussion on the SDMP. The discussion on the SDMP included an overview of the various definitions used in describing strategies and the deliberate, emergent and mixed perspectives of strategy. Particular attention was paid to Mintzberg’s (1990) ten schools of thought. Lastly, justifications were made on the choice of the design, planning, positioning and learning schools of thought for this study.

A discussion on the environment was next presented. In this section, the various dimensions of the environment, namely instability, complexity and munificence were discussed. The moderator relationship that the environment played within the SDMP-Performance relationship was further explored. Finally, a review of organisational performance was presented. The ambiguous nature of the performance construct in research was examined and it was also found that performance can be measured objectively as well as subjectively. The next chapter will present the discussion on the hypotheses to be tested in this study.
4. Hypotheses

4.1 Introduction

The previous chapter presented a detailed review of the literature surrounding the key constructs used in this study. Specifically, the review of the extant literature surrounding the constructs of EO, SDMP, Environment and Performance provided the basis for developing the research hypotheses for this study. This chapter presents and discusses the hypotheses developed for each of the four research aims in this study (discussed in Section 1.4). The purpose of this chapter is to outline and justify all sixteen hypotheses developed for this study by reviewing the literature that support the development of each hypothesis. The chapter is structured by presenting the discussion of the hypotheses in relation to each of the research aims. Upon discussing all the hypotheses, the hypothetical model developed for this study is then presented. The chapter then concludes with a summary of the key discussions. The hypotheses, along with their supporting rationale, are discussed next.

4.2 Research Aims and Corresponding Hypotheses

4.2.1 Research Aim 1:

To investigate how strategy happens in Singapore SMEs i.e. analyse whether the SDMP in Singapore SMEs is deliberate and/or emergent.

This research aim focuses on how strategy happens within Singapore SMEs. As discussed previously in Section 3.4.2, Porter (1980) proposed that there was a clear relationship between strategy and organisational performance. Mintzberg et al. (1998) proposed the deliberate and emergent and mixed views of strategy. The deliberate and emergent strategy views were examined in this study in line with previous research (Bailey et al., 2000; Wiesner & Millett, 2012). Prior studies on the SDMP in SMEs have provided contradictory results. As discussed in Section 3.4.7, some studies have found the SDMP in SMEs to be deliberate (eg. Gibson & Cassar, 2002; Wiesner & Millett, 2012). Alternatively, other researchers contended that resource constraints typically found in SMEs result in emergent SDMPs (Aguilera-Enríquez et al., 2011; Robinson & Pearce, 1984; Verreynne, 2006). Previous research has thus indicated the presence of either a deliberate or emergent strategy in SMEs. Therefore, the base hypotheses of this study are:

H0a: The strategic decision-making process within Singapore SMEs is deliberate.
H0b: The strategic decision-making process within Singapore SMEs is emergent.
4.2.2 Research Aim 2:
To assess whether EO determines if the SDMP within Singapore SMEs is deliberate and/or emergent.

This research aim focuses upon determining whether EO influences the adoption of deliberate and/or emergent SDMPs within Singapore SMEs. As discussed earlier in section 3.3.7, the relationship between EO and an SME’s strategy is key to the understanding of organisational performance (Lumpkin & Dess, 1996; Wales et al., 2011). It is argued that different resources and competencies are required for the implementation of either deliberate or emergent SDMPs in SMEs, given that strategy mediates the EO-performance relationship (Moreno & Casillas, 2008). It is therefore important to understand how the various dimensions of EO impact differently on the two types of strategies. The following elaborates upon the five dimensions of EO.

Innovativeness
As discussed in Section 3.3.1, innovativeness is characterised by a strong R&D emphasis, technological leadership, the introduction of new products and the degree of changes in product or service lines (Covin & Wales, 2012). A high level of innovativeness in organisations thus leads to the openness of management to new ideas and an acceptance that innovativeness is required to maintain effectiveness and build a sustainable competitive advantage for the future (Damanpour, 1991). It is argued that SMEs with a deliberate SDMP will tend to be at the lower end of the innovativeness spectrum as a deliberate SDMP is highly controlled, formal and explicit (Mintzberg et al., 1998). Greater innovativeness will therefore be disruptive to the deliberate SDMP (Miller & Friesen, 1982). Alternatively, in an emergent SDMP, there are many strategists in the organisation, where employees at all levels are typically involved in the process of innovativeness (Mintzberg et al., 1998). Here, top management makes the final decision on which strategies to undertake from the collective inputs of members of the organisation (Mintzberg, 1990b). Innovativeness is thus a “natural state of affairs” (Miller & Friesen, 1982, p. 16) in the emergent SDMP. This study hypothesises that:

H1a: Innovativeness is negatively associated with a deliberate strategy in Singapore SMEs

H1b: Innovativeness is positively associated with an emergent strategy in Singapore SMEs
Risk-Taking

As discussed in Section 3.3.2, organisations can typically be classified as either taking high levels or low levels of risk. This study argues that SMEs adopting a deliberate SDMP will undertake less risk. Firstly, the non-intuitive nature of a deliberate SDMP and the focus on a “thorough diagnosis” (Calori, 1998, p. 285) before acting upon any strategy will significantly reduce the element of risk. Next, in a deliberate SDMP, clear and well-defined strategic goals underline precise plans and programmes (Bailey et al., 2000; Chaffee, 1985), thereby reducing the risk levels. Finally, empirical data gathered from the competitive and industry analysis is effectively analysed to make decisions that are less risky in a deliberate SDMP (Mintzberg et al., 1998). By contrast, it is argued that emergent SDMPs are more risky, as entrepreneurs are willing to assume more risks if the potential rewards are appropriate (Stearns & Hills, 1996). Moreover, emergent SDMPs are riskier than deliberate SDMPs as they require continuous adaptation to the changing environment. This requires investment in R&D, technology, and differentiated products and services. Higher investment, in turn, relates to higher levels of risk (Dew, Sarasathy, Read, & Wiltbank, 2009). This study hypothesises that:

H2a: Risk-taking is negatively associated with a deliberate strategy in Singapore SMEs

H2b: Risk-taking is positively associated with an emergent strategy in Singapore SMEs

Proactiveness

As discussed in Section 3.3.3, a proactive organisation is characterised as one that constantly scans the environment for new business opportunities (Frese et al., 2002; Venkatraman, 1989). In line with this, a deliberate SDMP amongst SMEs entails the careful analysis of both internal and external environments, followed by the development and subsequent implementation of the planned strategy (Placet & Branch, 2002). Such a deliberate strategy utilises analytical tools such as the SWOT Analysis (Learned et al., 1965) to study the environment (Mintzberg et al., 1998). Similarly, in emergent SDMPs, organisations select and interpret their environment, respond to those elements that are fixed, and attempt to shape the remaining elements to their advantage (Cyert & March, 1963; Hitt & Tyler, 1991). Proactiveness will therefore lead an organisation adopting an emergent SDMP to change its strategy quickly to obtain first-mover advantage in a rapidly changing environment. In view of this, this study hypothesises that:
H3a: Proactiveness is positively associated with a deliberate strategy in Singapore SMEs

H3b: Proactiveness is positively associated with an emergent strategy in Singapore SMEs

**Autonomy**

Autonomy, as discussed in Section 3.3.4, depends on the level of centralisation in organisations (Lumpkin & Dess, 1996). A deliberate SDMP is typically associated with a top-down, centralised and controlled approach. For example, explicit strategies are disseminated upon development to the rest of the organisation in an informal manner in the design school and in a formal manner in the planning school. Similarly, the positioning school is viewed as a highly formal and controlled process (Mintzberg et al., 1998). Autonomy, in promoting employee empowerment, can thus be interpreted as the opposite of a tightly controlled workforce as found in a deliberate SDMP. To implement a deliberate SDMP, autonomy would thus have to be reduced. By contrast, the emergent SDMP is typically associated with a more bottom-up and decentralised approach. This aligns with autonomy, which drives flexibility in organisations (Hughes & Morgan, 2007). Autonomy, furthermore, allows for discretionary action where solutions are needed (Lumpkin et al., 2009). This often involves employees operating outside an organisation’s existing norms where they can think and act more independently, thereby leading to the faster adaptation to a changing environment (Lumpkin & Dess, 1996). This is again in line with the postulations of the emergent SDMP, where leaders make the final decision on which strategies to undertake from the collective inputs of employees (Mintzberg et al., 1998). An emergent SDMP is thus usually reinforced by autonomy. It is therefore hypothesised that:

H4a: Autonomy is negatively associated with a deliberate strategy in Singapore SMEs

H4b: Autonomy is positively associated with an emergent strategy in Singapore SMEs

**Competitive Aggressiveness**

As discussed in Section 3.3.5, competitive aggressiveness refers to the will to outperform competitors and keep them from entering the same market (Lumpkin & Dess, 1996). Examples of this and other forms of competitive aggressiveness available to new entrants include adopting unconventional tactics to challenge industry leaders (Cooper, Willard, & Woo, 1986), analysing and targeting a competitor’s weaknesses (MacMillan & Jones, 1983) and focusing on high value-added products while carefully monitoring discretionary expenses (Woo & Cooper, 1981). In relation to this, the positioning school of thought, representing the deliberate SDMP, postulated that the
choice of the optimal generic strategy is made through the analysis of the industry and competitors utilising the Porter (1979) Five Forces Model. Likewise, the emergent SDMP focuses on the study of the external environmental factors such as the competitors to be able to adapt quickly to a changing and dynamic environment. Thus, competitive aggressiveness is an important component of both the deliberate and emergent SDMPs. It is thus hypothesised that:

H5a: Competitive aggressiveness is positively associated with a deliberate strategy in Singapore SMEs

H5b: Competitive aggressiveness is positively associated with an emergent strategy in Singapore SMEs

4.2.3 Research Aim 3:
To investigate the relationship between the SDMP of Singapore SMEs and organisational performance.

Advocates of emergent SDMPs suggest that formalised strategic planning is rigid and inflexible (Mintzberg et al., 1998; Quinn, 1981), whereas advocates of deliberate SDMPs suggest that non-formalised strategic planning is without structure and direction (Steiner, 1979). As discussed earlier in Section 3.4.7, studies on the SDMP of organisations and performance have produced mixed results. On the one hand, some studies have found that deliberate SDMPs result in higher organisational performance than emergent SDMPs (e.g. Al-Shammari & Hussein, 2007; Bracker et al., 1988; Hart, 1992). However, other studies of deliberate SDMP and performance indicated a neutral or even negative relationship (Bracker & Pearson, 1986; Rue & Ibrahim, 1998). This is representative of an emergent SDMP in organisations. Furthermore, in a highly uncertain environment, opportunities may occur without any predictive pattern (Johnson, 1987). It is argued that such conditions require organisations, especially SMEs, to adopt an emergent SDMP in order to change strategies quickly to exploit emerging opportunities or risk missing these opportunities and weakening their competitive positions (Hannan & Freeman, 1984). Similarly, Collis (2016, p.64) viewed the deliberate SDMP as being dangerous to SMEs, referring to it as the ‘enemy of entrepreneurship’. This study hypothesises that:

H6a: There is a negative relationship between a deliberate strategy process in SMEs and organisational performance.

H6b: There is a positive relationship between an emergent strategy process in SMEs and organisational performance.
4.2.4 Research Aim 4:

Determine how the environment has a moderating effect on the relationship between the strategy decision-making process of Singapore SMEs and organisational performance.

As discussed in Section 3.5, the environment is “what gives organisations their means of survival” where “it creates opportunities and it presents threats” (Johnson, Whittington, Scholes & Pyle, 2011, p. 49). Environmental uncertainty is an element present in all environments since full knowledge of market conditions such as new technologies, geographical markets, or new products, is not possible (Eckhardt & Shane, 2003). The dimensions of the environment thus influence the relations between an organisation’s strategy and growth (Wiklund & Shepherd, 2005). The dimensions of the environment used in this study are discussed next.

**Instability**

SMEs, in general, compete in unstable environments, as they require vast amounts of information and resources to compete (Dess & Beard, 1984). SMEs, inclusive of Singapore SMEs, are however, typically, characterised as having limited access to information and resources, making it difficult for them to anticipate and respond to changes in such unstable environments. Furthermore, it is argued that the Singapore economy represents environmental instability as the country has to continually adapt to the rapidly changing global environment as discussed in Section 2.7. Recent findings suggested that environmental instability made executives use more rational SDMPs, where organisations in unstable environments that made more comprehensive, or deliberate, decisions actually performed better than those that were more reactive, or emergent (Bourgeois III & Eisenhardt, 1988). Alternatively, research has suggested that unstable environments require quick decision-making, where a detailed analysis of the environment may negatively affect performance because it slows down the SDMP (Fredrickson & Mitchell, 1984). Fredrickson and Iaquinto (1989) concurred that using detailed analysis in such environments was counterproductive because it slowed down decisions when they needed to be made at a fast pace. This points to a more emergent SDMP.

**Complexity**

In a complex environment, organisations will find it more challenging to locate resources and place or dispose of products in the market (Dess & Beard, 1984). It is argued that this is representative of Singapore. In such complex environments, organisations in industries having many competitors constantly seek to diversify to gain advantages over its competition (Keats & Hitt, 1988). It is expected that in such
complex environments, the amount of information and resources necessary to compete is greater (Dess & Beard, 1984). Literature regarding cognitive processes suggests that when dealing with high and diverse amounts of information, decision makers will use cognitive simplification processes like heuristics and biases (Schwenk, 1989). Such cognitive simplifications may restrict the number of alternatives and the information used to evaluate alternatives (Rajagopalan et al., 1993). Since SMEs have limited access to information gathering and resources, it is expected that the use of simplifications, heuristics and biases will be even more prominent in complex environments, thereby favoring an emergent SDMP to strategy as opposed to a deliberate SDMP.

**Munificence**

Low munificence in the environment will increase uncertainty for the organisation on the ability to have the resources necessary to perform in such an environment. This environmental condition is particularly challenging for SMEs, since the availability of resources will influence the entry, survival, and growth in such environments (Randolph & Dess, 1984). Low munificence environments are thus characterised by limited access to resources to compete in an industry. The perception of a low munificent environment and the perception of lack of access to the resources to compete may limit the ability to use deliberate SDMPs. Better performance can be expected from those organisations that decide to use a more emergent strategy when they are acting in dynamic and hostile environments as the opportunities that can be derived from the development of new products and technologies and from access to new markets are much greater (Miller & Friesen, 1982). Similarly, in stable and benign sectors, where it is easy to predict the competitive dynamics, technological development, consumption patterns, and so on, a deliberate SDMP will be more successful, in order to maximise efficiency in operations and to obtain gradual growth (Fredrickson & Mitchell, 1984).

Based on the above discussion, it is argued that environmental uncertainty negatively moderates the deliberate SDMP-performance relationship and positively moderates the emergent SDMP-performance relationship. Mintzberg et al. (1998) postulated that deliberate SDMPs were rigid and slow to react to environmental changes. Alternatively, less turbulent environments favor more disciplined decision-making (Brown & Eisenhardt, 1997) as they reward the efficient exploitation of developed strategies and plans. Similarly, turbulent environments result in changing market needs (Danneels, 2002). This requires the organisation to quickly react to better match the environment to meet success, which is in line with Mintzberg et al. (1998) postulation on emergent SDMPs. Thus, it is hypothesised that:
H7a: Environment uncertainty has a negative moderating effect on the relationship between a deliberate strategic decision-making process within Singapore SMEs and performance.

H7b: Environmental uncertainty has a positive moderating effect on the relationship between an emergent strategic decision-making process within Singapore SMEs and performance.

In sum, it is intended that this study would result in the development and testing of a theoretical model that is based upon the hypothesised relationships from Aims 1-4. Consequently, it is intended that this study will significantly contribute to the existing body of knowledge. All hypothesised relationships, directions and expected impact of deliberate and/or emergent SDMPs on performance are presented in Figure 4. Table 7 summarises the respective hypotheses developed for each of the research aims developed for this study.
Figure 4: Research Model Investigating the Relationship Between Entrepreneurial Orientation, the Strategic Decision-Making Process and Organisational Performance of Singapore SMEs
Table 7: Research Aims and Hypotheses

<table>
<thead>
<tr>
<th>Research Aims</th>
<th>Research Hypothesis</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Assess the importance of SMEs to the Singapore economy</td>
<td>None. Secondary data.</td>
</tr>
<tr>
<td>2. To investigate how strategy happens in Singapore SMEs i.e. analyse whether the strategy decision-making process in Singapore SMEs is deliberate and/or emergent.</td>
<td>H0a The strategic decision-making process within Singapore SMEs is deliberate.</td>
</tr>
<tr>
<td></td>
<td>H0b The strategic decision-making process within Singapore SMEs in emergent.</td>
</tr>
<tr>
<td>3. To assess whether entrepreneurial orientation determines if the strategy decision-making process within Singapore SMEs is deliberate and/or emergent.</td>
<td>H1a Innovativeness is negatively associated with a deliberate strategy in Singapore SMEs</td>
</tr>
<tr>
<td></td>
<td>H1b Innovativeness is positively associated with an emergent strategy in Singapore SMEs</td>
</tr>
<tr>
<td></td>
<td>H2a Risk-taking is negatively associated with a deliberate strategy in Singapore SMEs</td>
</tr>
<tr>
<td></td>
<td>H2b Risk-taking is positively associated with an emergent strategy in Singapore SMEs</td>
</tr>
<tr>
<td></td>
<td>H3a Proactiveness is positively associated with a deliberate strategy in Singapore SMEs</td>
</tr>
<tr>
<td></td>
<td>H3b Proactiveness is positively associated with an emergent strategy in Singapore SMEs</td>
</tr>
<tr>
<td></td>
<td>H4a Autonomy is negatively associated with a deliberate strategy in Singapore SMEs</td>
</tr>
<tr>
<td></td>
<td>H4b Autonomy is positively associated with an emergent strategy in Singapore SMEs</td>
</tr>
<tr>
<td></td>
<td>H5a Competitive aggressiveness is positively associated with a deliberate strategy in Singapore SMEs</td>
</tr>
<tr>
<td></td>
<td>H5b Competitive aggressiveness is positively associated with an emergent strategy in Singapore SMEs</td>
</tr>
</tbody>
</table>
4. To investigate the relationship between the strategy decision-making process of Singapore SMEs and organisational performance.

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>H6a</td>
<td>There is a negative relationship between a deliberate strategy process in SMEs and organisational performance.</td>
</tr>
<tr>
<td>H6b</td>
<td>There is a positive relationship between an emergent strategy process in SMEs and organisational performance.</td>
</tr>
</tbody>
</table>

5. Determine how the environment has a moderating effect on the relationship between the strategy decision-making process of Singapore SMEs and organisational performance.

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<table>
<thead>
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<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>H7a</td>
<td>Environment uncertainty has a negative moderating effect on the relationship between a deliberate strategic decision-making process within Singapore SMEs and performance.</td>
</tr>
<tr>
<td>H7b</td>
<td>Environmental uncertainty has a positive moderating effect on the relationship between an emergent strategic decision-making process within Singapore SMEs and performance.</td>
</tr>
</tbody>
</table>
4.3 Summary

In summary, this chapter presented a discussion on all sixteen hypotheses developed for this study. It was hypothesised that the SDMP within Singapore SMEs is deliberate as well as emergent.

In relation to the EO of Singapore SMEs, it was hypothesised that the various dimensions of EO would influence the SDMP within Singapore SMEs in different ways. Innovativeness was firstly deemed to be negatively associated with the deliberate SDMP and positively associated with the emergent SDMP. In addition, risk-taking was hypothesised to be negatively associated with a deliberate SDMP and positively associated with an emergent SDMP. In terms of proactiveness, this study hypothesised that this dimension of EO would be positively associated with both the deliberate and emergent SDMPs respectively. Autonomy was expected to be negatively associated with the deliberate SDMP and positively associated with an emergent SDMP. Lastly competitive aggressiveness was hypothesised to be positively associated with both the deliberate and emergent SDMPs within Singapore SMEs.

In addition to the above hypotheses, this study expected a positive relationship between both the deliberate and emergent SDMPs and organisational performance. Finally, in relation to the last research aim of this study, it was hypothesised that environment uncertainty has a negative moderating effect on the deliberate SDMP and performance while a positive moderating effect was expected on the relationship between the emergent SDMP and performance.

The discussion in this chapter further reviewed the extant literature justifying the development of each of the aforementioned hypotheses for the respective research aims. An overview of the relationships between the respective research aims and research hypotheses was then presented. The next chapter will present the methodology used in the collection and analysis of data for this study.
5. Research Methodology

5.1 Introduction
The previous chapter reviewed the academic literature on SMEs, EO, SDMP, the environment and performance. It further discussed the EO-SDMP and SDMP-organisational performance relationships as well as the moderating role of the environment within the SDMP-organisational performance relationship. The lack of empirical research and the inconclusive findings of these relationships, particularly within Singapore SMEs, encouraged the researcher to carry out further investigation in different settings and methodologies in contrast to the samples and approaches used in previous studies.

The purpose of this chapter is to outline and justify the research methodology adopted for this study. This chapter communicates from where and how the data were collected and analysed so as to validate the authenticity of sources and build confidence in the findings and conclusions for future research (Blaikie, 2009). This chapter begins with a discussion of what is meant by business research, followed by what is meant by quantitative research, qualitative research and mixed methods research. As this study adopted a mixed methods research approach, the chapter then follows with an outline and justification of how the respective quantitative and qualitative phases of this study were conducted. The chapter then discusses how research validity and reliability were achieved for this study followed by a discussion on the research ethics considered in this study. Finally, the chapter concludes with an overall summary of the chapter.

5.2 Business Research
Research methodology is defined as the body of knowledge that analyses methods, indicates limitations, clarifies presuppositions and relates the potentialities to research advances (Miller & Salkind, 2002). Hair, Babin, Money, and Samouel (2003, p.4) added that research is a “discerning pursuit of the truth”. It involves a systematic approach, based on logical relationships, that consists of a specific set of activities that produce tangible and intangible inputs and outputs such as information, time, resources and knowledge (Ghauri & Grønhaug, 2005; Maylor & Blackmon, 2005). Similarly, business research involves undertaking systematic research to answer a number of questions relating to business and management (Lewis, Thornhill, & Saunders, 2007). As businesses involve people, business research integrates with the social sciences, or the study of human behavior within societies (Hair et al., 2003; Neuman, 2011). Social sciences research is scientific (Neuman & Robson, 2012), and involves formalising a research question, selecting a research approach, collecting data, analysing and drawing conclusions from the data and sharing the results (Dunn, 2009). However,
given the complex nature of business research, researchers have differing beliefs as to how the research should be conducted and analysed (Cavana, Delahaye, & Sekeran, 2001). These differing beliefs are categorized as paradigms, which are clusters of beliefs that influence “what should be studied, how research should be done, and how results should be interpreted” (Bryman & Bell, 2011, p24). The three alternative paradigms in business research are namely positivist, interpretivist, and critical (Cavana et al., 2001; Neuman, 2011).

The positivist paradigm aims “to discover universal laws that can be used to predict human activity” and is frequently associated with quantitative methods (Cavana et al., 2001, p8). The emphasis in the positivist approach is on a highly structured methodology to facilitate replication (Gill & Johnson, 2010; Lewis et al., 2007) and determine cause-effect relationships that are logically derived from general theory (Lewis et al., 2007; Neuman, 2011). On the other hand, the interpretivist paradigm “rejects the idea that human emphasis can be studied in the same way as non-human phenomena and emphasises the view that the social world is socially constructed and subjective” (Veal, 2005, p.25). The interpretivist paradigm often utilises qualitative research (Cavana et al., 2001; Neuman, 2011). This paradigm argues that the complexity involved in operationalising the concepts involved in human psychology and business situations makes the use of statistical tools and determining cause and effect relationships difficult (Lewis et al., 2007; Plowman, 1999; Walliman, 2010). Finally, the critical paradigm is defined as “a critical process of inquiry that goes beyond surface illusions to uncover the real structures in the material world in order to help people change conditions and build a better world for themselves” (Neuman, 2003, p.81). Of the three paradigms, the critical paradigm is seldom adopted by business researchers (Neuman, 2011) as it focuses on “destroying current reality without providing processes for building a new reality” (Cavana et al., 2001, p. 10).

Whilst the proponents of each paradigm claim superiority for their own, each has its limitations (Blaikie, 2009). Social researchers may, in practice, mix elements from each paradigm (Neuman, 2011) with business research often a mixture between positivist and interpretivist paradigms (Lewis et al., 2007). Consistent with this, a mixture of both positivist and interpretivist methodologies was adopted in this study to enable a better understanding of the key constructs of EO, SDMP, performance and the moderating role of the environment within Singapore SMEs. Having decided on the research methodology for this study, considerations were next given to how the data were to be collected and analysed (Blaikie, 2009). This chapter now discusses the quantitative, qualitative and mixed method research approaches.
5.3 Quantitative Research

As discussed in Section 5.2, quantitative research is associated with the positivist research paradigm. Quantitative research is the “measure of the phenomena under investigation” through “the use of statistics to analyse the raw data” (Cavana et al., 2001)(p.12). Upon analysis of the quantitative data, generalisations are made to the larger population (Dillman, 2007; Hair et al., 2003). (William Zikmund, Babin, Carr, & Griffin, 2012)(p.134) added that:

*Quantitative business research can be defined as business research that addresses research objectives through empirical assessments that involve numerical measurement and analysis approaches. ... Quantitative researchers direct a considerable amount of activity toward measuring concepts with scales that either directly or indirectly provide numeric values. The numeric values can then be used in statistical computations and hypothesis testing.*

Largely deductive (Neuman, 2002), quantitative research methods include surveys and controlled experiments (Hair et al., 2003; Maylor & Blackmon, 2005). Central to quantitative research is the hallmarks of good research encompassing objective observations, precise measurements, statistical analysis and verifiable truths (Cavana et al., 2001). The key advantage of quantitative research lies in its ability to produce quantifiable, reliable data (Neuman & Robson, 2012) and is most helpful when “answering questions of who, where, how many, how much, and what is the relationship between specific variables” (Adler, 1996, p. 5). The key disadvantage of quantitative research is its lack of data richness and depth, which makes it inappropriate for answering ‘why’ questions (Lewis et al., 2007; Sekaran & Bougie, 2009). Furthermore, it decontextualises human behavior by removing events from real world settings and ignoring the effects of variables not included in the model (Neuman & Robson, 2012). As a consequence, this method may not facilitate the detailed description of social phenomena (Dezin & Lincoln, 2008).

Quantitative research has dominated previous entrepreneurship and SME studies (Hill & Tiu Wright, 2001; Lyon et al., 2000). Several past PhD theses (PQDTG, 2015) on EO and/or STDP of SMEs have adopted a quantitative approach (eg. Baker, 2007; Davidov, 2014; Emale, 2010; Metts, 2004). For example, Kroeger (2007) adopted a quantitative survey approach to study the impact of EO and strategic planning process on the organisational performance of SMEs in America. He mailed questionnaires to all 228 members of the Greater Cleveland Partnership’s Council of Smaller Enterprises and found that an organisation’s EO is positively related to performance although the positive relationship between strategic planning processes and organisational performance was not supported. His study also found that the environment had an
effect on the relationship between EO and performance. Many researchers have, however, argued that quantitative research was inappropriate in entrepreneurship and strategy studies due to the inability to holistically describe the phenomena under study (Gartner & Birley, 2002; Hill & Tiu Wright, 2001; Kodithuwakku & Rosa, 2002). Researchers have also argued that a quantitative approach was not sufficient to give a better understanding of the dynamics of SMEs (Ayyagari et al., 2007; Hill & Tiu Wright, 2001). This chapter now considers qualitative research.

5.4 Qualitative Research

Strauss and Corbin (1990, p.17) defined qualitative research as the “kind of research that produce findings not arrived at by means of statistical procedures or other means of quantification”. Similarly, Cavana et al. (2001, p.12) added that:

“Qualitative research tends to concentrate on collecting a great deal of ‘rich’ information from relatively few people, and recognises a more fluid and recursive relationship among the various elements of the research.”

Qualitative research is described as being exploratory (Hair et al., 2003; Sekaran & Bougie, 2009), where the key purpose is to seek out new insights and assess phenomena in a different perspective by adopting a less structured and flexible approach (Adams & Schvaneveldt, 1991; Silverman, 2006; Veal, 2005). Qualitative data are typically collected through observations and interviews (Collis & Hussey, 2013; Hair et al., 2003; Lewis et al., 2007). The key advantage of qualitative research is that it gives the researcher an opportunity to acquire rich descriptions of the specific phenomenon being studied (Dezin & Lincoln, 2008; Miles & Huberman, 1984). Qualitative methods can therefore “give the intricate details of phenomena that are difficult to convey with quantitative methods” (Strauss & Corbin, 1990, p.19). Some of the key disadvantages of qualitative research include the relatively small sample sizes that limit generalisations to broader populations (Calder, 1977). Qualitative research also involves a greater degree of researcher subjectivity (Bryman & Bell, 2011; Manning, 1987), is time consuming and the conclusions from qualitative studies are less certain because the methodology is marked by a lack of established conventions (Miles & Huberman, 1984). Furthermore, replicating qualitative studies is difficult as measures and procedures are typically specific to the researcher (Neuman & Robson, 2012). A comparison of qualitative and quantitative research is provided in Table 8.
<table>
<thead>
<tr>
<th>Focus of Research</th>
<th>Qualitative</th>
<th>Quantitative</th>
</tr>
</thead>
<tbody>
<tr>
<td>Researcher Involvement</td>
<td>High</td>
<td>Limited</td>
</tr>
<tr>
<td>Research Purpose</td>
<td>In-depth understanding; theory building</td>
<td>Describe or predict; build and test theory</td>
</tr>
<tr>
<td>Sample Design</td>
<td>Nonprobability; purposive</td>
<td>Probability</td>
</tr>
<tr>
<td>Sample Size</td>
<td>Small</td>
<td>Large</td>
</tr>
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<table>
<thead>
<tr>
<th>Research Design</th>
<th>Qualitative</th>
<th>Quantitative</th>
</tr>
</thead>
<tbody>
<tr>
<td>May evolve or adjust during the course of the project.</td>
<td>Determined before commencing the project</td>
<td></td>
</tr>
<tr>
<td>Often uses multiple methods simultaneously or sequentially.</td>
<td>Uses single method or mixed methods</td>
<td></td>
</tr>
<tr>
<td>Consistency is not expected.</td>
<td>Consistency is critical</td>
<td></td>
</tr>
<tr>
<td>Involves longitudinal approach.</td>
<td>Involves either a cross-sectional or a longitudinal approach</td>
<td></td>
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<thead>
<tr>
<th>Participant Participation</th>
<th>Qualitative</th>
<th>Quantitative</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pretasking is common</td>
<td>No preparation desired to avoid biasing the participant</td>
<td></td>
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</table>

<table>
<thead>
<tr>
<th>Data Type and Presentation</th>
<th>Qualitative</th>
<th>Quantitative</th>
</tr>
</thead>
<tbody>
<tr>
<td>Verbal or pictorial descriptions</td>
<td>Verbal descriptions</td>
<td></td>
</tr>
<tr>
<td>Reduced to verbal codes</td>
<td>Reduced to numerical codes for computerised analysis</td>
<td></td>
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</table>

<table>
<thead>
<tr>
<th>Data Analysis</th>
<th>Qualitative</th>
<th>Quantitative</th>
</tr>
</thead>
<tbody>
<tr>
<td>Human analysis following computer or human coding; primarily nonquantitative</td>
<td>Computerised analysis where statistical and mathematical methods dominate</td>
<td></td>
</tr>
<tr>
<td>Forces researcher to see the contextual framework of the phenomenon being measured – distinction between facts and judgments less clear</td>
<td>Analysis may be ongoing during the project</td>
<td></td>
</tr>
<tr>
<td>Always ongoing during the project</td>
<td>Maintains clear distinction between facts and judgments</td>
<td></td>
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<thead>
<tr>
<th>Insights and Meaning</th>
<th>Qualitative</th>
<th>Quantitative</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deeper level of understanding is the norm; determined by type and quantity of free-response questions</td>
<td>Limited by the opportunity to probe respondents and the quality of the original data collection instrument</td>
<td></td>
</tr>
<tr>
<td>Researcher participation in data collection allows insights to form and be tested during the process</td>
<td>Insights follow data collection and data entry, with limited ability to reinterview participants</td>
<td></td>
</tr>
</tbody>
</table>

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<thead>
<tr>
<th>Research Sponsor Involvement</th>
<th>Qualitative</th>
<th>Quantitative</th>
</tr>
</thead>
<tbody>
<tr>
<td>May participate by observing research in real time or via taped interviews</td>
<td>Rarely has either direct or indirect contact with participant</td>
<td></td>
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</table>

<table>
<thead>
<tr>
<th>Feedback Turnaround</th>
<th>Qualitative</th>
<th>Quantitative</th>
</tr>
</thead>
<tbody>
<tr>
<td>Smaller sample sizes make data collection faster for shorter possible turnaround</td>
<td>Larger sample sizes lengthen data collection; Internet methodologies are shortening turnaround but inappropriate for many studies</td>
<td></td>
</tr>
<tr>
<td>Insights are developed as the research progresses, shortening data analysis</td>
<td>Insight development follows data collection and entry, lengthening research process; interviewing software permits some tallying of responses as data collection progresses</td>
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</table>

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<thead>
<tr>
<th>Data Security</th>
<th>Qualitative</th>
<th>Quantitative</th>
</tr>
</thead>
<tbody>
<tr>
<td>More absolute given use of restricted access facilities and smaller sample sizes</td>
<td>Act of research in progress is often known by competitors; insights may be gleaned by competitors for some visible, field based studies</td>
<td></td>
</tr>
</tbody>
</table>

**Source:** (Cooper & Schindler, 2011, p.163)
Some studies on EO and/or STDP within SMEs were found to use a qualitative approach (e.g., Banks, 2013; Gandy, 2015; Quezada, 2005). For example, Williams (2008) conducted interviews with 15 SME owners in America to find that the majority of SME owners had a formalised strategic plan to provide a guideline and direction in making strategic decisions for the organisation. Although some researchers encourage qualitative research in entrepreneurship studies (Gartner & Birley, 2002), others point to the many weaknesses of such an approach (Curran & Blackburn, 2000). Based on the discussions in Section 5.3 and this section, the weaknesses inherent in both quantitative and qualitative research approaches have stimulated growing interest in combining the two approaches to provide the best opportunity for addressing the research questions. This chapter next considers a mixed-method research approach.

5.5 Mixed Methods Research
A mixed methods research (MMR) approach incorporating both quantitative and qualitative approaches was adopted for this study. Creswell and Clark (2007, p.5) defined MMR as:

“A research design with philosophical assumptions as well as methods of inquiry. As a methodology, it involves philosophical assumptions that guide the direction of the collection and analysis of data and the mixture of qualitative and quantitative approaches in many phases in the research process. As a method, it focuses on collecting, analysing, and mixing both quantitative and qualitative data in a single study or series of study. Its central promise is that the use of quantitative and qualitative approaches in combination provides a better understanding of research problems than either approach alone.”

MMR draws upon the strengths and perspectives of both quantitative and qualitative methods (Jick, 1979; Johnson & Onwuegbuzie, 2004), which are not viewed as dichotomies in MMR, but rather as different ends of a continuum in which MMR resides in the middle (Newman & Benz, 1998). Quantitative and qualitative methods are used within a single study to overcome the limitations inherent in each approach, thereby enhancing the quality, robustness and analytical power of the study (Johnson, Onwuegbuzie, & Turner, 2007; Sandelowski, 2000; Strauss & Corbin, 1990). MMR therefore enables the collection of both breadth (quantitative) and depth (qualitative) data, to provide a deeper understanding of the research problem, which would not have been possible with a single approach (Bryman, 2012; Creswell & Clark, 2007). Guba and Lincoln (1994, p.110) added, “combining qualitative and quantitative methods in a single study is widely practiced and accepted”. Moreover, mixing methodologies is also common in business research as it enables a broader and complimentary view of the research problem or issue under study (Collis & Hussey,
MMR has many types of which one is the convergent parallel mixed methods (CPMM) design (Creswell, 2013). The CPMM design (Figure 5) was adopted in this study and comprised of collecting both quantitative and qualitative data, analysing them separately and then comparing the results to see if the findings confirm or refute each other (Creswell, 2013). In this design, each data set remains analytically separate from the other, where qualitative techniques are used to analyse qualitative data and quantitative techniques are used to analyse quantitative data (Sandelowski, 2000). The key assumption of the CPMM approach is that both qualitative and quantitative data provide different types of information that should yield the same results (Creswell, 2013). As a result, the same constructs are used in the collection of both qualitative and quantitative data (Creswell, 2013). In this way, the quantitative data and their subsequent analysis provide a general understanding of the research problem while the qualitative data and their analysis refine and explain the statistical results by exploring participants’ views in more depth and richness (Creswell & Clark, 2007; Teddlie & Tashakkori, 2006).

**Figure 5: Convergent Parallel Mixed Methods**

Adapted from: (Creswell, 2013)

In a MMR design, either data collection method is typically emphasised more ‘heavily’ than the other (Creswell & Clark, 2007). In this study, emphasis was on the quantitative phase with the in-depth qualitative phase used to explain the results in more depth.
The MMR approach used in this study offers higher confidence in the results, leads to richer data, helps uncover contradictions, and overcomes the potential bias and sterility of a single-method approach (Collis & Hussey, 2013; Denzin, 1978; Johnson et al., 2007). Some past PhD studies (PQDTG, 2015) on SMEs have also adopted the MMR approach (e.g., Amanyraoufpoor, 2012; Lopez, 2008). Khatri and Hunt (1994), for example, adopted the MMR approach in studying the relationship between strategic decision processes and organisational performance in profit-making organisations across the banking, computer, apparel and utilities industries in America. He used a combination of quantitative (postal surveys) and qualitative (interviews) approaches to find that synoptic (deliberate) SDMPs have a lesser impact than incremental (emergent) SDMPs on performance. The following sections outline the quantitative and qualitative phases adopted for this study.

5.6 Phase 1: Quantitative Analysis

The objective of using quantitative methods in this study was to test the generalisability of the relevant research findings within Singapore SMEs. This was considered important given the social-institutional differences between Singapore and the western countries where most studies on EO and the SDMP within SMEs had been developed and widely empirically investigated. Analysis units in this study were SMEs, and respondents were business owners, who provided information on business behavior. A questionnaire was used as a tool to collect data. The following sections discuss how this quantitative phase was conducted.

5.6.1 Research Sample

Targeted Sample

Sampling provides a means of reducing the amount of data that is to be collected by only collecting from a ‘sub-group’ rather than the entire population (Lewis et al., 2007). Within quantitative research, sampling involves a large number of individuals who are highly representative of a population to ensure that the results can be generalised to that population (Creswell, 2013; Creswell & Clark, 2007). The targeted sample for this study involved owner-directors within Singapore SMEs; namely sole-owners, part-owners, Chief Executive Officers (CEO), Managing Directors (MD) and Executive Directors. Owner-directors were specifically targeted as they have direct responsibility in deciding the strategic direction of their organisations (Bailey et al., 2000; Matthews & Scott, 1995). Moreover, in SMEs, the entrepreneurial and strategic orientations of the owner-managers are likely equal to that of the organisations (Aloulou & Fayolle, 2005; Lyon et al., 2000). Berry (1998) concurred that owner-managers are likely to be the
most knowledgeable within the organisation in providing inputs of the strategy process due to their high involvement in the process. The targeting of owner-directors in this study is supported by extant literature (e.g. Moreno & Casillas, 2008; Wiesner & Millett, 2012; Wiklund & Shepherd, 2005). George (2007), for example, collected data via mailed surveys from 148 CEOs and top management of manufacturing organisations to study the SDMP in new ventures in America. Likewise, Abebe (2014) collected quantitative data from 55 owner-managers of SMEs in Texas, America to find that EO positively moderated the relationship between e-commerce adoption and performance.

**Sampling Frame**

The decision on the size of the sample for analysis is dependent on the multivariate technique to be used, with small samples typically leading to unreliable results (Hair, Black, Babin, & Anderson, 2010; Pallant, 2013). Studies are at risk of committing a Type II error as an insufficient sample size may not uncover a significant effect that exists in the population that it was drawn from. Therefore, a minimum sample size is crucial to ensure that the results of the statistical method are robust and the model is generalisable (Hair et al., 2016).

Partial Least Squares – Structural Equation Modelling (PLS-SEM) was the multivariate technique employed in this study (to be discussed further in Section 5.6.5). Although previous studies (e.g. Chin & Newsted, 1999; Hui & Wold, 1982) evaluating the performance of PLS-SEM with small sample sizes concluded that PLS-SEM performs well, Hair et al. (2016) suggested the “10 times” rule as a guideline for determining the minimum sample size when using PLS-SEM. The aforementioned rule states that the sample size should be equal to the larger of 10 times the largest number of formative indicators used to measure a single construct, or, 10 times the largest number of structural paths directed at any single construct in the model (Barclay, Higgins & Thompson, 1995). Table 9 shows a breakdown of the calculations used in determining the minimum sample size for this study.

**Table 9: Computing Sample Size in PLS-SEM using “10 times” Rule**

<table>
<thead>
<tr>
<th>Formula</th>
<th>Calculation</th>
</tr>
</thead>
<tbody>
<tr>
<td>10 x Largest number of formative indicators used in a single construct</td>
<td>10 x 18 = 180</td>
</tr>
<tr>
<td>10 x Largest number of structural paths directed at any single construct</td>
<td>10 x 2 = 20</td>
</tr>
</tbody>
</table>

Based on the calculations depicted in Table 9, the minimum sample size for this study was determined to be 180. The actual sample size of respondents to be contacted to
ensure that a minimum of 180 responses was collected was calculated based on the formula suggested by (Lewis et al., 2007) in Table 10.

Table 10: Actual Sample Size Required

<table>
<thead>
<tr>
<th>Formula</th>
<th>Elements</th>
</tr>
</thead>
<tbody>
<tr>
<td>na = (\frac{n \times 100}{re%})</td>
<td>na</td>
</tr>
<tr>
<td></td>
<td>n</td>
</tr>
<tr>
<td></td>
<td>re%</td>
</tr>
</tbody>
</table>

**Source:** (Lewis et al., 2007)

Cavana et al. (2001) suggested that the response rate of SMEs is typically low at around 30%. Given this figure and the minimum sample size of 180 that was computed earlier (Table 9), the actual sample size that had to be contacted for this study was therefore estimated at 600.

5.6.2 Data Collection

Data are empirical facts produced by research (Bouma & Ling, 2004). Data collection involves systematically gathering information and recording it in such a way that it can be preserved and analysed by other researchers (Creswell & Clark, 2007). Data were collected in this study through survey research, which is suitable when information is sought from a large sample of respondents and is advantageous in standardising the data for easy comparison (Hair et al., 2003; Lewis et al., 2007). Methods of survey research include the use of a questionnaire, which is a “scientifically developed instrument for the measurement of key characteristics of individuals, companies, events and other phenomena” (Hair et al., 2003, p.130).

The use of questionnaires is one of the most powerful and practical instruments used to gather data in quantitative research. Termed “self-administered interviews” (Smith, 1975 cited in Adams & Schvaneveldt, 1985, p. 202), questionnaires are cost effective, time efficient (Cavana et al., 2001; Tashakkori & Teddlie, 1998) and provide a numeric description of facts, trends, attitudes and opinions of the sample being studied, which can then be generalised to the population (Lewis et al., 2007; Maylor & Blackmon, 2005; Zikmund, 2003). Questionnaires can be administered personally, mailed to the respondents or electronically distributed (Cavana et al., 2001). Both mailed questionnaires (postal survey) and personally administered questionnaires were used in this study.
Postal Survey

The few empirical studies available on Singapore SMEs predominantly utilised postal surveys (e.g., Chew & Yeung, 2001; Ghosh et al., 2001; Sum, Kow & Chen, 2004; Teng, Bhatia, & Anwar, 2011; Theng & Boon, 1996). A postal survey is a self-administered, paper-based questionnaire sent to respondents through the mail (Bryman & Bell, 2011; Zikmund et al., 2012). SME owner-managers are typically busy in their daily operations leaving them limited time and flexibility to entertain personal or telephone interviews. This inadequacy is facilitated by the postal survey, which offers owner-managers more freedom to respond at their convenience.

The use of a postal survey is dependent on an adequate population list from which the samples can be drawn (Dillman, 2007) and typically involves the use of databases. Many SME studies have used databases to identify their target sample (e.g., Brouthers, Nakos, & Dimitratos, 2015; Campbell, 2010; Stonehouse & Pemberton, 2002; Yang, 2006). In this study, the DP information Group database on the top 1000 SMEs in Singapore for 2014 (2015 edition) was used. The use of this database was justified as the SMEs listed fit with the definition of SMEs used in this study. Furthermore, the SMEs in this database had been registered for a minimum of two years and had been the top performing SMEs in Singapore for the year 2014. The database provided information on the name of the SMEs and its rank in terms of several criteria such as Return of Equity, Return on Sales and profitability. The ranking based on Return on Sales was used as many definitions on SMEs, as discussed in Section 3.2.2, were based on this criterion. Given that the names and contact details of the owner-managers of the SMEs were not provided in the database, the initial step involved using the Internet to gather information on the telephone numbers, mailing addresses as well as the names of the owner-managers for each of the 1000 SMEs. In instances where information on the owner-managers was not provided, phone calls were made to the respective SMEs to obtain this information.

The use of postal surveys, however, can be disadvantageous. Some respondents may provide “socially desirable” answers to protect themselves with superficial impression (Beck, Peretti-Watel, & Andreyev, 2002). Furthermore, not many respondents may take the initiative to return the questionnaires. According to Jobber and Saunders (1989), non-response can create non-response bias and affect the confidence interval of sample estimates. To minimise the problems of non-responses, the following techniques, as postulated by (Dillman, 2007), were proactively employed and administered to increase the response rate for this study.
Firstly, a courtesy letter (Appendix 1) was sent to all respondents on 6 March 2014, one week prior to mailing them the questionnaires. The questionnaires were then mailed out to the respondents the following week, on 13 March 2015. The questionnaires were directed to the owner or a member of the senior management. The introduction section of the questionnaire highlighted the importance of giving honest and trustworthy answers by individual respondents to help contribute to the studies of Singapore SMEs. A Participant Information Sheet (PIS) bearing the name of the University of Western Australia was also provided to assure respondents of the confidentiality and ethical behaviour in protecting personal data (Appendix 2). Each PIS was addressed to the contact person and hand signed by the researcher. In addition to the PIS, a Participant Consent Form (PCF) (Appendix 3) was also provided for the respondents to indicate their consent to participate in the study. The respondents were also provided with stamped-envelopes to encourage faster and a safer return of the questionnaires.

Two weeks after the initial mailing of the questionnaires, a reminder letter was sent to the contact person on 3 April 0215 (Appendix 4). Each letter was hand signed and thanked the contact persons for their participation and/or encouraged them to respond to the survey (if they had not already done so). Two weeks later, on 17 April 2014, a second copy of the questionnaire was posted again along with another PIS. Some 102 responses were received after nearly four weeks since the second batch of questionnaires were sent out. To help increase the response rate, phone calls and personal visits to the offices of the respective SMEs were made over the next month to remind them to complete the questionnaires. This enabled the collection of another 76 completed questionnaires, bringing the total to 178 responses by the 30th of June 2015.

**Personally Administered Questionnaires**

Personally administering questionnaires to participants of training workshops aimed at owners, directors and managers of Singapore SMEs was the second method used to collect data for this study. Through his professional network, the researcher contacted the facilitators of the workshops to request permission to distribute the questionnaires during the workshops. Approvals were granted after assurances were made that the entire process of distributing and collecting the questionnaires would not exceed thirty minutes so as not to disrupt the workshops. Assurances were also made that the details of the training institutions, workshops, facilitators and participants will be kept strictly confidential. Each workshop typically ran for eight hours from 0830H-1730H. Thirty minutes were allocated to the researcher at each workshop to distribute,
complete and collect the completed questionnaires.

At each workshop, the researcher made a formal introduction explaining the objectives, importance and voluntary nature of the study. Upon distributing the questionnaires, together with the PIS (Appendix 5) and PCF, the researcher announced his availability to answer any questions or difficulties the respondents might be encountering. None of the respondents had any clarifications to address. The researcher also highlighted the need for interviewees for the second qualitative phase, where willingness to participate could be indicated either on the questionnaire or directly (verbally) to the researcher. At the end of the thirty allocated minutes, all questionnaires were collected back by the researcher. The collection of data through these training workshops posed several advantages. Firstly, several of the training workshops were specifically aimed at owner-managers of Singapore SMEs. Next, there were a large number of participants registered for the training workshops, which exceeded the requirements of the actual sample size required as computed earlier. It further enabled the collection of all the completed responses immediately, allowed for the clarification of doubts that the respondents might have, ensured higher response rates, motivated respondents to be more frank and ensured that respondents fit the targeted profile (Cavana et al., 2001; Dillman, 2007; Lewis et al., 2007).

5.6.3 Pilot Testing

Before a survey is carried out, all aspects of the questionnaire as a survey instrument (i.e., question content, wording, sequence and instructions) have to undergo a pilot test (Malhotra, Hall, Shaw, & Oppenheim, 2004). The purpose of a pilot test is to identify and eliminate any problems that may exist in the questionnaire design (Malhotra et al., 2004; Zikmund et al., 2012) and examine the reliability and validity of measures used in the questionnaire (Sekaran, 2006). A pilot test was conducted in this study prior to the distribution of the questionnaires. The pilot test aided in refining the questionnaires so that respondents would have no problems providing the required data (Lewis et al., 2007).

The pilot study was conducted during a training workshop held in Training Institution (X). The workshop was aimed at owner-directors of Singapore SMEs. This one-day workshop was held on 9th December 2014 and ran from 8.30am to 5.30pm. The 27 attendees of this workshop were asked to review the questionnaire developed for this study. The attendees of this workshop were considered appropriate for this study as they, being owner-directors of SMEs, were the intended target audience of this study. The pilot study was conducted during the tea break, which was from 3.00pm to
3.30pm. 13 attendees agreed to participate in this study of which seven were owner-managers and eight were senior management in SMEs. The purpose of the questionnaire was explained and feedback included both written and verbal comments to the researcher. The summary of the collected feedback and subsequent actions taken is provided in Appendix 6. Based on the feedback, some questions were reworded to reduce the risk of confusing respondents. The pilot test confirmed that the final questionnaire (Appendix 7) used in this study could be considered an appropriate instrument for its intended purpose.

5.6.4 Measures
Concepts being examined in business research have to be correctly measured (Hair et al., 2003). In quantitative research, the credibility of the study relies heavily on the development of instruments used to measure the underlying concepts (Golafshani, 2003). Developing a questionnaire that can accurately measure respondents’ attitudes and behaviour can be challenging (Bush, Ortinau, & Hair, 2009). For this reason, in investigating the various constructs in this study, the questionnaire developed for use adopted both intact and modified scales used in previous studies. This is in line with Sekaran and Bougie (2009) postulation that a review of the extant literature be conducted to identify existing measures. They added that the use of existing measurement scales “saves time and energy” and also enable the researcher to “verify the findings of others and to build on the work of others” (p.130) and consider the underlying theory as well as the reliability and validity of the scale (Hair et al., 2003). Some of the scales were modified and adapted to suit the specific needs and context of this study (Sekaran & Bougie, 2009). The questionnaire used in this study comprised of seven key sections. Each section is detailed next.

5.6.4.1 Section 1: Company Background
Section 1 collected information on the company pertaining to the number of years it had been in operation, number of current employees, type of business and the sector. The findings in this section enabled descriptive statistics of the organisations that participated in this study to be calculated and presented. Apart from the year of founding of the organisation, categorical scales were used to obtain the data.

5.6.4.2 Section 2: Personal Information
This section focused on the demographic information of the respondents. Here information collected included the job title, gender, age and educational qualifications
of the respondents. Again, the findings of this section provided descriptive statistics of the respondents. Categorical scales were to elicit the required data in this section.

5.6.4.3 Section 3: Strategy in Your Organisation

This section of the questionnaire was key in studying the extent to which Singapore SMEs employed deliberate and/or emergent SDMPs (as discussed in Section 3.4.2). The measurement scale used to determine the deliberate and emergent SDMP was developed by (Bailey et al., 2000). According to Bailey et al., (2000), the Cronbach alpha coefficients averaged .7, which exceeded the internal consistency guidelines set up by (Van de Ven & Ferry, 1980) for measuring organisational attributes. While the original scale of Bailey et al., (2000) had six perspectives (namely command, planning, incremental, political, cultural and enforced choice), only two perspectives pertaining to the measure of deliberate (planning) and emergent (incremental) SDMPs were relevant for this study. An eight-item scale measured the deliberate SDMP, while another six-item scale measured the emergent SDMP within organisations. The two scales were mixed in the questionnaire to avoid any potential biasness. A seven-point Likert scale ranging from 1 (you strongly disagree with the item in relation to your organisation) to 7 (you strongly agree with the item in relation to your organisation) was used as in the initial study.

5.6.4.4 Entrepreneurial-Orientations Measurement

This study utilised the EO scale developed by (Lumpkin et al., 2009), which measured all five dimensions of EO (as discussed in Section 3.3). Lumpkin et al., (2009) incorporated the nine-item Covin and Slevin (1989) EO scale to measure the three dimensions of innovativeness, proactiveness and risk-taking. This scale is commonly used in EO research (eg., (Covin, Prescott, & Slevin, 1990; Marino, Strandholm, Steensma, & Weaver, 2002; Wiklund & Shepherd, 2003) with an inter-item reliability coefficient of .87 reported by Covin and Slevin (1989). Lumpkin et al., (2009) added two items (as developed by Lumpkin (1998)), to address important process aspects of innovativeness not captured by the Covin and Slevin (1989) scale. They further added an additional proactiveness item (from Lumpkin & Dess, 2001) and an additional risk-taking item (from Lumpkin, 1998). Autonomy was measured using a four-item scale developed by Lumpkin et al., (2009) based on the content gathered in their comprehensive review of the autonomy literature to find extant scales used to measure autonomy. Finally, competitive aggressiveness was measured using a single-item scale (from Lumpkin & Dess, 2001) as proposed by Lumpkin et al., (2009). The use of all five dimensions provided a comprehensive study of the EO construct. Respondents
were asked to indicate on a seven-point Likert-type scale ranging from 1 (complete agreement with the statement on the left side of the scale) to 7 (complete agreement with the statement on the right side of the scale) the response that most clearly matched the management style of the managers. To avoid response set contamination, the questions were arranged so that the entrepreneurial and non-entrepreneurial statements appeared on both the right and the left sides of the scale.

5.6.4.5 Section 5: The Impact of the Environment on your Organisation

This section of the questionnaire was focused on studying the impact of the environment on Singapore SMEs (as discussed in Section 3.5). Miller and Friesen (1982) had identified a scale identifying the dimensions of dynamism (instability), heterogeneity (complexity) and hostility (munificence) to measure the environment. This measurement scale, comprising of fifteen items, was used to measure the environment in this study. In relation to this study, instability was measured using a five-item scale, complexity using a four-item scale and munificence was measured using a six-item scale. Three different 7-point Likert scales were used for this measure. The first scale ranged from 1 (complete agreement with the statement on the left side of the scale) to 7 (complete agreement with the statement on the right side of the scale). The second scale ranged from 1 (about the same for all our product(s)/service(s)) to 7 (varies a great deal from one product/service to another). The final scale ranged from 1 (this is not a great threat) to 7 (this is a very substantial threat). Miller and Friesen (1982) reported an average Cronbach Alpha measure of .74.

5.6.4.6 Section 6: Performance

As discussed in Section 3.6, subjective or self-report measurement was employed in this study due to the difficulty of obtaining objective measures from owner-managers of SMEs (Lyon et al., 2000). Performance was measured using a six-item scale developed by Khatri and Ng (2000) comprising both financial and non-financial measures of performance. The financial performance measures included overall profitability, growth in sales and return on assets. The non-financial performance measures included operational efficiency, quality of customer service and image. Khatri and Ng (2000) reported a Cronbach Alpha averaging .74 for this scale. Porter (1999) stated that organisational performance is firstly attributable to the average performance of all competitors in its industry and secondly to whether the company is an above- or below-average performer in its industry. Accordingly, each performance measure was on a 5-point scale and required the respondents to rank their organisation’s position relative to its peers in the same industry, which ranked from the bottom 20% to top 20%. The use of such a scale was advantageous in presenting a true reflection of the

5.6.4.7 Section 7: Others
This final section collected additional comments and information that respondents wished to provide. All measurement scales used in the questionnaire also had an ‘Others’ component to collect as much feedback and information as possible from the respondents. Table 11 provides an overview of the measures of the relevant constructs used in this study.
Table 11: Measurement of Constructs used in the Questionnaire

<table>
<thead>
<tr>
<th>Measurement Scale</th>
<th>Dimension</th>
<th>Questions</th>
</tr>
</thead>
</table>
| **Entrepreneurial Orientation** | Innovativeness | • In general, top managers of my organisation favor a strong emphasis on the marketing of tried and true products or services as compared with an emphasis on R & D, technological leadership, and innovations (Covin & Slevin, 1989)  
• In my organisation, no new products or services have been marketed in the past as compared with very many new products or services having been marketed in the past five years (Covin & Slevin, 1989)  
• In my firm, changes in product or service lines have been mostly of a minor nature as compared with being quite dramatic (Covin & Slevin, 1989)  
• In general, top managers of my organisation favor experimentation and original approaches to problem solving as compared with imitating methods that other organisations have used for solving their problems (Lumpkin, 1998)  
• In my organisation, there is a preference to design our own unique new processes and methods of operation as compared with adapting methods and techniques that others have developed and proven (Lumpkin, 1998) |
| Lumpkin, Cogliser and Schneider (2009) | Proactiveness | • In dealing with its competitors, my organisation typically responds to action which competitors initiate as compared with initiating actions to which the competitors then respond (Covin & Slevin, 1989)  
• In dealing with its competitors, my organisation is very seldom the first business to introduce new products/services, administrative techniques and operating technologies as compared with very often being the first business to introduce new products/services, administrative techniques, operating technologies and etc. (Covin & Slevin, 1989)  
• In dealing with its competitors, my organisation typically seeks to avoid competitive clashes, preferring a “live-and-let-live” posture as compared with typically adopting a very competitive, “undo-the-competitors” posture (Covin & Slevin, 1989)  
• In general, the top managers of my organisation favour a strong tendency to “follow the leader” in introducing new products or ideas as compared with a strong tendency to be ahead of other competitors in introducing novel ideas or products (Lumpkin & Dess, 2001) |
<table>
<thead>
<tr>
<th>Risk-Taking</th>
</tr>
</thead>
<tbody>
<tr>
<td>• In general, the top managers of my organisation favour a strong preference for low risk projects as compared with a strong preference for high risk projects (Covin &amp; Slevin, 1989)</td>
</tr>
<tr>
<td>• In general, the top managers of my organisation favour exploring the environment gradually via cautious, incremental behavior as compared with using bold, wide-ranging acts in achieving the organisation’s due to the nature of the environment (Covin &amp; Slevin, 1989)</td>
</tr>
<tr>
<td>• When confronted with decision-making situations involving uncertainty, my organisation typically adopts a cautious, “wait-and-see” posture in order to minimize the probability of making costly decisions as compared with a bold, aggressive posture to maximize the probability of exploiting potential opportunities (Covin &amp; Slevin, 1989)</td>
</tr>
<tr>
<td>• The top managers of my firm prefer to study a problem thoroughly before deploying resources to solve it instead of being quick to spend money on potential solutions if problems are holding us back (Lumpkin, 1998)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Autonomy</th>
</tr>
</thead>
<tbody>
<tr>
<td>• In general, the top managers of my organisation favour allowing individuals and/or teams to decide for themselves what business opportunities to pursue for best results as compared with allowing the CEO and top managers to provide the primary impetus for pursuing business opportunities (Lumpkin, Cogliser &amp; Schneider, 2009)*</td>
</tr>
<tr>
<td>• In my organisation, there is support for the efforts of individuals and/or teams that work autonomously as compared with the idea of requiring individuals and/or teams to rely on senior managers to guide their work (Lumpkin, Cogliser &amp; Schneider, 2009)*</td>
</tr>
<tr>
<td>• In my organisation, individuals and/or teams pursuing business opportunities make decisions on their own without constantly referring to their supervisors as compared with individuals and/or teams pursuing business opportunities having to obtain approval from their supervisors before making decisions (Lumpkin, Cogliser &amp; Schneider, 2009)*</td>
</tr>
<tr>
<td>• In my organisation, the CEO and top management team play a major role in identifying and selecting the entrepreneurial opportunities my organisation pursues as compared with employee initiatives and inputs playing a major role in identifying and selecting the entrepreneurial opportunities that my organisation pursues (Lumpkin, Cogliser &amp; Schneider, 2009)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Competitive Aggressiveness</th>
</tr>
</thead>
<tbody>
<tr>
<td>• In dealing with its competitors, my organisation is very aggressive and intensely competitive as compared with making no special effort to take business from the competition (Lumpkin &amp; Dess, 2001)*</td>
</tr>
</tbody>
</table>

| 101 |

### Strategic Decision Making Process

<table>
<thead>
<tr>
<th>Bailey, Johnson &amp; Daniels, 2000</th>
<th>Deliberate Strategy</th>
<th>Emergent Strategy</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Our strategy is made explicit in the form of precise plans</td>
<td>Our strategy develops through a process of ongoing adjustment</td>
</tr>
<tr>
<td></td>
<td>When we formulate a strategy, it is planned in detail</td>
<td>Our strategy is continually adjusted as changes occur in the market place</td>
</tr>
<tr>
<td></td>
<td>We have precise procedures for achieving strategic objectives</td>
<td>To keep in line with our business environment, we make continual small-scale changes to our strategy</td>
</tr>
<tr>
<td></td>
<td>We have well-defined planning procedures to search for solutions to strategic problems</td>
<td>Our strategies emerge gradually as we respond to the need to change</td>
</tr>
<tr>
<td></td>
<td>We meticulously assess many alternatives when deciding on a strategy</td>
<td>We keep early commitment to a strategy tentative and subject to review</td>
</tr>
<tr>
<td></td>
<td>We evaluate potential strategic options against clearly stated and detailed strategic objectives</td>
<td>We tend to develop strategy by experimenting and trying new approaches in the market place</td>
</tr>
<tr>
<td></td>
<td>We have definite and precise strategic objectives</td>
<td></td>
</tr>
<tr>
<td></td>
<td>We make strategic decisions based on a systematic analysis of our business environment</td>
<td></td>
</tr>
</tbody>
</table>

### Performance

<table>
<thead>
<tr>
<th>Khatri and Ng, 2000</th>
<th>Performance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rate the performance of your organisation based on the performance measures of:</td>
<td></td>
</tr>
<tr>
<td>Overall profitability</td>
<td></td>
</tr>
<tr>
<td>Growth in Sales</td>
<td></td>
</tr>
<tr>
<td>Return on Assets</td>
<td></td>
</tr>
<tr>
<td>Operational Efficiency</td>
<td></td>
</tr>
<tr>
<td>Quality of customer service</td>
<td></td>
</tr>
<tr>
<td>Image</td>
<td></td>
</tr>
</tbody>
</table>
## Environment

| Instability | In terms of our environment, our organisation must rarely (eg. every five years) change its marketing practices as compared with changing its marketing practices extremely frequently (eg. semi-annually) to keep up with the market and competitors.  
|             | In terms of our environment, the rate at which products/services are getting obsolete in the industry is very slow (eg. every five years) as compared with a very high rate of obsolescence (eg. less than a year).  
|             | In terms of our environment, actions of competitors are quite easy to predict as compared with being very unpredictable.  
|             | In terms of our environment, demand and consumer tastes are easy to forecast as compared with unpredictable demand and tastes.  
|             | In terms of our environment, the production/service technology is not subject to very much change and is well established as compared with the modes of production/service changing often and in a major way. |
| Complexity | In terms of our environment, we are a very undiversified organisation and cater to the same buyers as compared with us being highly diversified and operating in unrelated industries.  
|             | Are there great differences amongst the product(s)/service(s) you offer with regard to:  
|             | - Customer's buying habits  
|             | - Nature of the competition  
|             | - Market dynamism and uncertainty |
| Munificence | The environment cause a great deal of threat to the survival of our organisation as compared with the environment posing very little threat to survival*.  
|             | How severe are the following challenges to your organisation?  
|             | - Tough price competition  
|             | - Competition in product quality or novelty  
|             | - Dwindling markets for products  
|             | - Scarce supply of labour/materials  
|             | - Government interference |

* Denotes that questions were reversed in the questionnaire
5.6.5 Justifying the Choice of PLS-SEM as the Quantitative Analysis Tool

The use of statistical analysis tools by social science researchers has been prevalent for nearly a century (Hair et al., 2016). First-generation (1980s) statistical methods such as factor analysis and regression analysis were dominant in that era (Fornell, 1982). However, since the 90s, these tools and methods have grown quickly, and second-generation methods began to feature more. Hair et al. (2016) suggested that almost 50% of research today employ second-generation tools. Often referred to as structural equation modeling (SEM), these second-generation tools are able to comprehend and handle more complex relationships that are consistent with current research directions. Additionally, SEM allows researchers to include unobservable (or latent) variables measured indirectly by indicator variables. Chin (1998) added that SEM, importantly, assists accounting for measurement error in observed variables.

There are two types of SEM: Partial Least Squares SEM (PLS-SEM) and Covariance-Based SEM (CB-SEM). Chin (1998), Haenlein and Kaplan (2004), Hair, Ringle and Starstedt (2011) and Hair et al. (2016) purport that the choice between the two techniques lies in the nature of the research. CB-SEM is primarily chosen in confirmatory studies – i.e. studies that confirm (or reject) theories. It does this by “determining how well a proposed theoretical model can estimate the covariance matrix for a sample data set” (Hair et al. 2016, p. 4). On the other hand, PLS-SEM is more suited for studies that are exploratory in nature, as it relaxes the strong assumptions of CB-SEM that all the covariation between sets of indicators is explained by one common factor. This study does not presume to be predominantly exploratory in nature, but PLS-SEM was still found the more appropriate technique for statistical analysis.

Aside from advantages over CB-SEM, PLS-SEM in itself has several key characteristics that support the decision in using this method. These characteristics are summarised in Table 12.
### Table 12: Summary of PLS-SEM Characteristics

<table>
<thead>
<tr>
<th>Data Characteristics</th>
<th></th>
</tr>
</thead>
</table>
| **Sample Size**      | • No Identification issues with small sample size  
                        • Generally achieves high levels of statistical power with small sample sizes  
                        • Larger sample sizes increases the precision (i.e., consistency) of estimations  |
| **Distribution**     | • No distributional assumptions; PLS-SEM is a nonparametric method  |
| **Missing Values**   | • Highly robust as long as missing values are below a reasonable level  |
| **Scale of Measurement** | • Works with metric data, quasi-metric (ordinal) scaled data, and binary coded variables  
                           • Some limitations when using categorical data to measure endogenous latent variables  |

<table>
<thead>
<tr>
<th>Model Characteristics</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Number of items in each construct in the measurement model</strong></td>
<td>• Handles constructs measured with single- and multi-item measures</td>
</tr>
<tr>
<td><strong>Relationships between constructs and their indicators</strong></td>
<td>• Easily incorporates reflective and formative measurement models</td>
</tr>
<tr>
<td><strong>Model complexity</strong></td>
<td>• Handles complex models with many structural model relations</td>
</tr>
<tr>
<td><strong>Model setup</strong></td>
<td>• No causal loops (no circular relationships) are allowed in structural model</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PLS-SEM Algorithm Properties</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Objective</strong></td>
<td>• Minimises the unexplained variance (i.e., maximises the $R^2$ values)</td>
</tr>
<tr>
<td><strong>Efficiency</strong></td>
<td>• Converges after a few iterations (even in situations with complex and/or large sets of data) to the optimum solution; efficient algorithm</td>
</tr>
</tbody>
</table>
| Nature of constructs | • Viewed as proxies of the latent concept under investigation, represented by composite variables  
|                      | • Estimated as linear combinations of their indicators  
|                      | • Are determinate  
|                      | • Used for predictive purposes  
|                      | • Can be used as input for subsequent analyses  
|                      | • Not affected by data inadequacies  

| Construct Scores | • Structural model relationships are generally underestimated and measurement models are generally overestimated when estimating data from common factor models  
|                 | • Consistency at large  
|                 | • High levels of statistical power  

**Source:** *(Hair, Ringle & Starstedt, 2011 in Hair et al., 2016)*
Firstly, PLS-SEM has the ability to work efficiently even with small sample sizes. The sample size used in this study was 278, which is not considered large (>1000). Section 5.6.1 showed that 180 was the minimum required for the PLS-SEM model in this study. Accordingly, missing values were less than 5% per indicator, and treated using the mean value replacement option in running the PLS-SEM algorithm. Additionally, as mentioned in 5.6.4, ordinal scales were used to form the indicators used in the model, which is a scale of measurement that PLS-SEM can handle.

Secondly, the model had both multi- and single-item constructs, which PLS-SEM is also able to handle. More specifically, the Competitive Aggressiveness construct is the only single-item construct used in this model. Moreover, the model was designed so that there are 8 formative constructs, and 1 reflective construct, both of which can be incorporated into a PLS-SEM model. Consequently, and by definition, first order constructs are the 5 EO constructs, while second order constructs are the 2 SDMP constructs (Kerney, 2016)

Lastly, as none of the research aims were designed to prove a causal loop, the use of PLS-SEM was deemed appropriate.

Lastly, this study aims to understand the effects of EO on SDMP, SDMP on Performance, and the moderating effect of Environment on the SDMP-Performance relationship. As the construct scores in PLS-SEM are determinate and can be used for predictive purposes, the model could help the study derive its research aims. Additionally, maximising \( R^2 \) values could help the study understand how much of each independent construct explains the variance of its dependent constructs.

In summary, this section highlighted the steps this study took in analysing the quantitative data gathered for this research. A step-by-step explanation of the processes taken shows a methodological approach in gathering, preparing, assessing and analysing the quantitative data. Next, the section explained and justified the use of PLS-SEM as its primary statistical analysis tool. It was evident that PLS-SEM had numerous advantages not only over its SEM counterpart CB-SEM, but also over other first-generation techniques. In the next section, the qualitative phase of the study is discussed.
5.6.6 Data Analysis Plan

This section discusses the techniques that were used to test the hypotheses. The steps below were followed:

**Step One:** A codebook was first prepared where each question in the questionnaire, and the respective answers, was defined and labeled. The values obtained from each respondent for each question were then entered and saved in a data file. The entire data file was then screened to check and correct any errors within the data file. This screening of the data file was done by checking the variables for accuracy, checking the frequency distributions and checking on assumptions. A missing value analysis was further carried out, where the treatment rendered was based on the percentage proportion of missing values to determine any patterns in missing values.

**Step Two:** Preliminary analysis was then conducted by preparing descriptive statistics assessing normality and checking for outliers. Descriptive statistics refer to the frequencies, the mean and the standard deviation, which provide descriptive information about a dataset (Sekaran & Bougie, 2009). Descriptive statistics were included for both demographic and construct variables in the data file. For the demographic variables, frequencies and percentages were provided for the type of business, sector, subsector, job-title, gender, age and educational qualifications of the respondents. For the constructs under study, normality was evaluated by reviewing p-p plots, skewness and kurtosis, as well the Shapiro-Wilk and the Kolmogorov- Smimov tests of normality for every variable.

**Step Three:** Factor analysis was used to examine the factor structure and investigate the dimensionality of the instruments for the constructs of SDMP (deliberate, emergent) EO (innovativeness, proactiveness, risk-taking, autonomy, competitive aggressiveness), performance (profitability, sales, ROA, operational efficiency, quality of customer service, image) and the environment (instability, complexity, munificence). This was done to ensure that the scale items loaded sufficiently on their proposed factor in order to confirm that they are reliable measures of the construct. The coefficient alpha for each of the scales was then calculated to verify the internal reliability of the scales.

**Step Four:** Hypotheses H0a-H0b were then tested using total scale scores. This is consistent with the developers of the SDMP scale used (Bailey et al., 2000). The SDMP of Singapore SMEs would be deemed to be either deliberate and/or emergent depending on the mean values of their scale scores. Next, using the SMARTPLS 3
software, a model that incorporated hypotheses H1a-H7b was designed. The base model (as depicted in Figure 4 previously) consisted of eight exogenous latent variables (namely Proactiveness, Innovativeness, Risk-taking, Autonomy, Competitive Aggressiveness, Deliberate SDMP, Emergent SDMP and Environment), and one endogenous latent variable (Performance). 47 indicator variables for the eight exogenous constructs were modeled as formative measures, and six indicator variables for the single endogenous construct were modeled as reflective measures. Using known elements, the algorithm estimated all unknown elements within the path model. These unknown elements included the construct scores (relationship between constructs) and the outer weights and loadings (relationship between measured indicator variables and both the formative and reflective constructs).

**Step Five:** PLS-SEM was used in this study to maximise the explained variance of the chosen endogenous construct (Performance). As such, the quality of the measurement model (relationship between indicators and constructs) and the structural model (relationship between constructs) was evaluated. For the measurement model, the metrics used were reliability, convergent validity, discriminant validity, collinearity between indicators (VIF), significance and relevance of outer weights (bootstrapping). For the structural model, the metrics were $R^2$ (explained variance), $f^2$ (effect size), $Q^2$ (predictive relevance), and the size and statistical significance of the path coefficients (Hair et al., 2016).

**Step Six:** Finally, hypotheses H7a-H7b (moderators) were tested in PLS-SEM through the two-step approach suggested by Chin et al. (2003). A moderator effect implies that a variable (environment) changes the form of the relationship (i.e. the slope of the regression line as represented by the regression coefficient) between the predictor variable and the dependent variable (Slater & Narver, 1994). The exploration of moderator effects has been widely used in previous strategy and EO studies (e.g., Kreiser, Marino, Kuratko, & Weaver, 2013; Su, Xie, & Wang, 2015; Tang & Hull, 2012). Kraus, Rigtering, Hughes, and Hosman (2012), for example, conducted a quantitative study on the moderating effects of the environment on the EO-performance relationship within 164 SMEs in the Netherlands. They studied the moderating effects of environmental turbulence on each of the dimensions of EO, namely proactiveness, risk-taking and innovativeness, on performance. They found that the interaction of innovativeness with turbulence was positively related to performance, while risk-taking was negatively related. They did not find environmental turbulence to moderate the proactiveness-performance relationship.
In this study, the dependent endogenous latent variable (performance) was regressed on two exogenous latent variables (SDMP as the independent, and environment as the moderator) and the cross product of those variables in two steps. In Step 1, the main effects model was estimated to obtain the scores of the latent variables. In Step 2, the scores of the exogenous latent variable and the moderator variable were multiplied to create a single-term measure (i.e. SDMP \* M). This two-step process was done twice to estimate the moderating effect of the environment variable on both the deliberate SDMP–performance relationship as well as the emergent SDMP-performance relationship. The moderating variable is the cross product of the environment and the SDMP. Separate regressions were run for the deliberate and emergent SDMPs. If the interaction term increases the power of the regression equation to explain the variance, then an interaction effect is said to exist.

In sum, Table 13 presents a listing of the key statistical techniques used in this study.
Table 13: Overview of Statistical Techniques Used in this Study

<table>
<thead>
<tr>
<th>Statistical Technique</th>
<th>Description</th>
<th>Use in this Study</th>
</tr>
</thead>
<tbody>
<tr>
<td>Descriptive Statistics</td>
<td>Provides an overview of the characteristics of the sample</td>
<td>To describe the characteristics of the sample and to check the variables for violations of the assumptions underlying the statistical techniques employed.</td>
</tr>
<tr>
<td>Frequency</td>
<td>Number of times various subcategories of a certain phenomenon occur.</td>
<td>To describe the number of times subcategories of phenomena such as age, job title, education and etc. occur.</td>
</tr>
<tr>
<td>Mean</td>
<td>Measure of central tendency that provides the average or general picture of each observation in a dataset.</td>
<td>To describe the average of various continuous variables such as age of organisation, SDMPs, dimensions of EO and etc.</td>
</tr>
<tr>
<td>Standard Deviation</td>
<td>Measure of dispersion for interval and ratio scaled data that offers an index of the spread of a distribution.</td>
<td>To describe the variability and spread of distribution for continuous variables in the dataset.</td>
</tr>
<tr>
<td>Minimum value</td>
<td>The smallest value for a particular variable.</td>
<td>To describe the small value of a variable to see if it is in line with the coding done.</td>
</tr>
<tr>
<td>Maximum value</td>
<td>The highest value for a particular variable.</td>
<td>To describe the highest value of a variable to see if it is in line with the coding done.</td>
</tr>
<tr>
<td>Reliability</td>
<td>The extent to which a measure is without bias and therefore is consistent with the measure across time and across the various items in the instrument.</td>
<td>To describe the stability and consistency of the measures used in the instrument.</td>
</tr>
<tr>
<td>Internal Consistency Reliability (Cronbach’s alpha)</td>
<td>Indicates the homogeneity of the items in the measure that tap the construct.</td>
<td>To determine how high reliable are the measures used to reflect the various constructs.</td>
</tr>
<tr>
<td>Convergent Validity</td>
<td>The extent to which a measure correlates positively with alternative measures of the same construct.</td>
<td>To be determined using average variance extracted (AVE).</td>
</tr>
<tr>
<td>Discriminant Validity</td>
<td>The extent to which a construct is truly distinct from other constructs by empirical standards.</td>
<td>To determine if a construct is unique and captures phenomena not represented by other constructs in the model.</td>
</tr>
<tr>
<td><strong>Tolerance</strong></td>
<td>Commonly used to measure multicollinearity.</td>
<td>To determine if there is multicollinearity within the dataset.</td>
</tr>
<tr>
<td>---------------</td>
<td>---------------------------------------------</td>
<td>---------------------------------------------------------------</td>
</tr>
<tr>
<td><strong>VIF Values</strong></td>
<td>Indicator of the effect that the other independent variables have on the standard error of a regression coefficient where large VIF values indicate a higher degree of multicollinearity among the independent variables.</td>
<td>To determine if there is multicollinearity within the dataset.</td>
</tr>
<tr>
<td><strong>R-Square Value</strong></td>
<td>Measure of the proportion of the variance of the dependent variable about its mean that is explained by the independent variables.</td>
<td>To determine the impact of deliberate and emergent strategies on financial performance and non-financial performance.</td>
</tr>
<tr>
<td><strong>$F^2$ (or Effect Size)</strong></td>
<td>Measure of the proportion of the impact a specific exogenous construct has on the overall model.</td>
<td>To determine if the omitted construct has a substantive impact on the endogenous construct through calculating the change in $R^2$ value.</td>
</tr>
<tr>
<td><strong>$Q^2$ Value</strong></td>
<td>Measures the model's out-of-sample predictive power.</td>
<td>Obtained through blindfolding procedure for a specified omission distance.</td>
</tr>
<tr>
<td><strong>$q^2$ Value</strong></td>
<td>Measures the relative impact of predictive relevance of a particular construct.</td>
<td>To determine if the omitted construct has a substantive impact on the endogenous construct through calculating the change in $Q^2$ value.</td>
</tr>
</tbody>
</table>

*Adapted from:* (Cavana et al., 2001; Hair et al., 2010; Sekaran & Bougie, 2009; Hair et al., 2016)
5.7 Phase 2 – Qualitative phase

In line with the CPMM design adopted for this study (discussed in Section 5.5), the second phase of the study comprised of qualitative research. In this qualitative phase, the various constructs examined within this study were explored with the owner-managers of SMEs via face-to-face semi-structured interviews. The objective of analysing qualitative data, as discussed in Section 5.4, is to explore the meaning of the content that is in the information gathered (Lawrence & Tar, 2013), which is an appropriate way to explain a phenomenon (Schmidt, 2010). (Singleton, Straits, & Straits, 1993) concurred that exploratory research can be undertaken when the topic to be studied is largely uncertain, as is the case with the SDMP, EO, performance and the impact of the environment within Singapore SMEs.

5.7.1 Research Sample

Qualitative research often relies on purposeful sampling or non-probability sampling where the researcher intentionally selects participants who have experience with the key concept being explored (Creswell & Clark, 2007; Tashakkori & Teddlie, 1998). Emmel (2013, p.13) stated that, “Purposeful sampling is designed before the research starts and may be redesigned as the research progresses. It is not driven forward by theoretical categories, but practical and pragmatic considerations”. Furthermore, Creswell (2013) noted that a common practice within CPMM is to select the same individuals for both the quantitative and qualitative data collection phases, so that data can be more easily compared. In this way, researchers might collect data using a quantitative survey instrument and follow up with interviews using a few individuals who participated in the survey to learn more details about their survey responses (Creswell & Clark, 2007). Such an approach was adopted in this study. The respondents in this qualitative phase were, therefore, from the initial quantitative phase. More specifically, this study was not based on grounded theory. Rather, the qualitative findings were used to shed light on quantitative findings, and therefore the same sample was used.

5.7.2 Data Collection Tool: Semi-Structured Interviews

In this qualitative phase, face-to-face semi-structured interviews were conducted with owner-managers of Singapore SMEs. Interviews are powerful discussions involving two or more people (Kahn & Cannell, 1957) and offer “specialised insight” from the interviewees (Hair et al., 2003, p. 59). Furthermore, interviews have a wide variety of forms and a multiplicity of uses (Guba & Lincoln, 1994) ranging from highly structured to open-ended interviews (Punch, 2013; Tashakkori & Teddlie, 1998). Furthermore, interviews involve only a few questions that are “intended to elicit views and responses from the participants” (Creswell, 2009, p.181). An open-ended interview design was
considered appropriate for this study given the need to explore how SMEs engaged in EO and SDMPs without being constricted by pre-determined constructs as to how it might occur (Adams & Schvaneveldt, 1991). Semi-structured interviews, in particular, are suited for exploratory studies seeking insights into the reasoning behind decisions, attitudes and opinions (Strauss & Corbin, 1990). This aligned with the requirements of this study in terms of the views of owner-managers of Singapore SMEs towards the SDMP, EO, performance and as well as the impact of the environment.

Semi-structured interviews utilise pre-planned questions to explore specific topics (Cooper & Schindler, 1998; Robson, 2002). Panagiotakopoulos (2011) recommended semi-structured interviews as a method to ask open-ended questions without determining the potential answers as in structured interviews or unstructured interviews, which could lead to massive amounts of data potentially unrelated to the study topic. The questions were developed in line with the research aims of the study and included an extension to the responses of the interviewees to the initial quantitative study. The use of pre-planned questions served as a “blueprint, placing a priori structure on the outcome of the analysis” (Cavana et al., 2001, p.170), while the exploratory nature of this study meant that themes and results were not concrete prior to the commencement of the interviews. The structure remained flexible enough to enable extensive exploration of a range of different factors and allowed for variations depending on the flow of the conversation (Lewis et al., 2007). The semi-structured interviews further provided the researcher with an element of control over the questioning of related themes and issues (Lee, 1999). Additional probing of information, with the use of probing questions such as ‘Can you tell me more?’ (Singleton Jr et al., 1993, p.261), enabled the elaboration of accounts by interviewees that otherwise may not have been possible from structured interviews (Cavana et al., 2001). Respondents could thus answer more deeply and ‘on their own terms’ than is permitted in highly structured interviews.

In addition to garnering greater depth from the interactions (Duggleby, 2005; Freeman, O’Dell, & Meola, 2001; van Eyk & Baum, 2003), the use of semi-structured interviews in this study enabled the researcher to access the participant’s attitudes and values in order to record their perceptions of real events and issues (Silverman, 2006) in relation to the constructs under study. It also enabled the clarification of unclear questions and vague answers and provided opportunities to uncover rich, in-depth and complex information from the interviewees (Cavana et al., 2001; Creswell & Clark, 2007; Tashakkori & Teddlie, 1998). The semi-structured interview approach therefore enabled comparisons between accounts due to common elements in questions asked
as opposed to completely open interviews with no structure at all (Punch, 2013). (Cavana et al., 2001) concurred that there would be a large degree of variety within each response thereby contributing to the conceptualisation of issues in ways totally different from what was anticipated.

5.7.3 Pilot Study
As discussed in section 5.6.3, a pilot study is required before the actual data collection process to help identify potential issues and to ensure the appropriate collection of the data. As such, a pilot study was conducted for this qualitative phase. The pilot study was done with one of the respondents from the workshop conducted on 3rd March 2015. The respondent had expressed interest in participating in the qualitative phase of the study. An appointment was then made with the respondent via phone and a meeting was arranged for 28th March 2015 at his office. The pilot study lasted for an hour. The respondent’s body language and thoughtful comments throughout helped to indicate that the interview was well received. The pilot study respondent at the end indicated that the questions helped him to reflect upon his business and strategy. The feedback offered by the interviewee, as well as the changes incorporated in the semi-structured interview guide, is reflected in Appendix 8. The updated semi-structured interview-guide is provided in Appendix 9.

5.7.4 Data Collection Procedure
Respondents were informed of the conduct of a second phase involving interviews with the researcher in two ways. Firstly, all questionnaires had the option of respondents opting-in for the interviews. Secondly, during the distribution of questionnaires to the respondents in the respective workshops, the researcher made an announcement requesting for voluntary participation in the interviews. In all, 18 respondents indicated their interest in participating in the interviews by ticking the opt-in option in the questionnaire. Contact was made with these 18 respondents. Of the 18 contacted, two were not reachable, while two declined to meet up due to a hectic schedule. In total 14 interviews were conducted in Phase Two as illustrated in Table 14.

Table 14: Qualitative Data Collection Schedule
<table>
<thead>
<tr>
<th>Date</th>
<th>Timing</th>
<th>Location</th>
<th>Designation</th>
<th>Industry</th>
</tr>
</thead>
<tbody>
<tr>
<td>280315</td>
<td>88 minutes</td>
<td>Interviewee’s Office</td>
<td>Owner</td>
<td>Services</td>
</tr>
<tr>
<td>310315</td>
<td>51 minutes</td>
<td>Interviewee’s Office</td>
<td>Partner</td>
<td>Services</td>
</tr>
<tr>
<td>070415</td>
<td>40 minutes</td>
<td>Interviewee’s Office</td>
<td>Partner</td>
<td>Services</td>
</tr>
<tr>
<td>290415</td>
<td>55 minutes</td>
<td>Interviewee’s Office</td>
<td>Owner</td>
<td>Services</td>
</tr>
<tr>
<td>080515</td>
<td>62 minutes</td>
<td>Interviewee’s Office</td>
<td>Owner</td>
<td>Services</td>
</tr>
<tr>
<td>170515</td>
<td>61 minutes</td>
<td>Interviewee’s Office</td>
<td>Managing Director</td>
<td>Manufacturing</td>
</tr>
<tr>
<td>210515</td>
<td>77 minutes</td>
<td>Interviewee’s Office</td>
<td>Owner</td>
<td>Services</td>
</tr>
<tr>
<td>260515</td>
<td>42 minutes</td>
<td>Interviewee’s Office</td>
<td>Owner</td>
<td>Services</td>
</tr>
<tr>
<td>100615</td>
<td>42 minutes</td>
<td>Coffee House</td>
<td>Owner</td>
<td>Services</td>
</tr>
<tr>
<td>220615</td>
<td>52 minutes</td>
<td>Interviewee’s Office</td>
<td>Director</td>
<td>Services</td>
</tr>
<tr>
<td>240615</td>
<td>34 minutes</td>
<td>Interviewee’s Office</td>
<td>Owner</td>
<td>Manufacturing</td>
</tr>
<tr>
<td>250615</td>
<td>61 minutes</td>
<td>Interviewee’s Office</td>
<td>Owner</td>
<td>Services</td>
</tr>
<tr>
<td>290615</td>
<td>32 minutes</td>
<td>Interviewee’s Office</td>
<td>Owner</td>
<td>Services</td>
</tr>
<tr>
<td>300615</td>
<td>45 minutes</td>
<td>Interviewee’s Office</td>
<td>Director</td>
<td>Manufacturing</td>
</tr>
</tbody>
</table>

The interviews were conducted during the scheduled interview period of 23rd March 2015 to 30th June 2015. Appointments were made to conduct the interview at a location of the interviewees’ convenience. Specific best practices identified by Yin (2015) formed the basis for the semi-structured interviews in this study including (a) not dominating the conversation, (b) not guiding the interview in a specific direction, (c) ensuring impartiality, (d) adhering to the protocol, and (e) thinking during the interview to develop appropriate follow-up questions. 13 interviewees chose to conduct the interview at their respective organisations while the remaining one interviewee agreed to conduct the interview outside the organisation at a coffee house. All 14 semi-structured interviews were conducted in a relaxed setting with no other staff present as the presence of others during an interview can have a direct impact on the data collected (Adams & Schvaneveldt, 1991).

Prior to the commencement of the interviews, the interviewees were reminded of the voluntary nature of the study and provided with the PIS (Appendix 10) and PCF to endorse. Each interview lasted for about an hour on average. All interviewees were also asked if the conversations could be audio recorded. 11 of the interviewees agreed for the interviews to be audio recorded while the rest declined. For the interviewees who agreed for the interviews to be audio recorded, the GarageBand software was used to audio record the interviews through the researcher’s laptop. Permission was requested from the remaining three interviewees who declined to be audio recorded if notes could be taken. All three agreed and notes were taken by the researcher both during the interviews and immediately after the interviews to ensure that all important points were noted. Of the interviews that were audio recorded, all recordings were transcribed Verbatim (Appendix 11). The identity of each respondent was removed from the transcriptions and a code was assigned as means of identification. A list of participants and the code assigned to them was kept confidential.

The use of this semi-structured interview approach added richness to the data and a
presented a unique opportunity to explicate first-hand a discourse of how EO and the SDMP was developed within Singapore SMEs (Creswell, 2009). The use of 14 interviewees in this study, though small, is in line with (Creswell & Clark, 2007) postulation that a small number, typically ranging from four to ten, be selected for the qualitative phase so as to gather in-depth information from each person. Unlike quantitative methods that require large samples for generalisation of the findings, qualitative methods typically analyse a relatively small sample in-depth. Limitations on time and other resources must also be taken into account in determining the number in the sample in qualitative research (Miles & Huberman, 1994). Although the number of cases may be decided in advance, completion ideally happens when the question is answered as the project evolves as researchers come to understand their data (Richards & Morse, 2012). This is referred to as data saturation, or the point at which no more interviews are needed because no further new or relevant information is likely to emerge from additional respondents (Corbin & Strauss, 2014). Data saturation was deemed to have been achieved in this study upon the completion of all 14 interviews as no new content arose from the interviews.

5.7.5 Data Analysis Plan

Data analysis is a systematic search for meaning (Hatch, 2002) and is one of the most important steps in the qualitative research process (Leech & Onwuegbuzie, 2007). Unfortunately, the available tools for data analysis in qualitative research are less commonly known (Powell, Mihalas, Onwuegbuzie, Suldo, & Daley, 2008) and there is no standardised approach to the analysis of qualitative data (Lewis et al., 2007). Throughout the analysis of qualitative data, researchers attempt to gain a deeper understanding of what they have studied and to continually refine their interpretations (Basit, 2003). The qualitative data analysis program, NVivo11 (QSR International Pty Ltd, 2008), was used in this study. This program is commonly used to manage and analyse qualitative data (Bazeley & Jackson, 2013) and to increase the rigor of a qualitative study (Onwuegbuzie & Leech, 2007). Although software such as NVivo11 are helpful in qualitative data management, they cannot perform any of the conceptual analysis required to produce meaningful outcomes (Bringer, Johnston, & Brackenridge, 2006). The researcher thus remains the primary data analysis tool in qualitative research (Dezin & Lincoln, 2008). Leech and Onwuegbuzie (2007) identified seven ways in which qualitative data can be analysed of which constant comparison analysis is the most commonly used type of analysis for qualitative data. This constant comparison analysis method was adopted in this study and is explained next.

In relation to the constant comparison analysis method, the entire dataset in this study
went through an iterative process involving multiple readings of the transcripts (Spiggle, 1994) to group the data into smaller meaningful parts or ‘codes’ (Leech & Onwuegbuzie, 2007). This process of coding refers to the identification of the key points around which the data can be gathered (Strauss & Corbin, 1990) and is often considered an important role in qualitative data analysis (Dey, 1993). Within the constant comparison analysis method, a deductive approach can be undertaken whereby codes are identified prior to analysis and then looked for in the data (Leech & Onwuegbuzie, 2007). This approach was adopted in this study. Each code was compared with previous codes, to ensure that similar chunks of data were labeled with the same code (Leech & Onwuegbuzie, 2007). Through this process of coding, the larger data set was dismantled and then reconstructed into a hierarchy of nodes that had explanatory power (Goulding, 1998). Furthermore, coding adds legitimacy to the qualitative data analysis process because it offers an explanation for the resultant theory and assists others in their efforts to assess or replicate the research (Fontana & Frey, 1994; Glaser & Strauss, 2009). In NVivo11, such ‘codes’ are referred to as ‘nodes’. After all the data had been grouped into nodes, the nodes were grouped by similarity, and themes were identified and documented based on each grouping (Leech & Onwuegbuzie, 2007). These themes were then interpreted to present a consolidated story of the findings (Tesch, 1990). The detailed results of the qualitative data analysis of this study will be presented in Chapter 7.

5.8 Research Validity
Validity ensures that the concept that the researcher had intended to measure is indeed measured as opposed to something else (Sekaran & Bougie, 2009). Creswell (2009) recognised that validity differs in quantitative and qualitative research, but stated that in both approaches, the purpose was to check on the quality of the data and the results. Establishing validity is important regardless of qualitative or quantitative research (Creswell & Clark, 2007; Creswell, 2009). The following sections outline how validity was ensured for both phases of this study.

5.8.1 Quantitative Validity
Validity can be established in quantitative data by addressing content, criterion and construct validity (Sekaran & Bougie, 2009; Creswell, 2009). Content validity ensures that the measure includes an adequate and representative set of items that “tap the concept” ensuring that the dimensions and elements of a concept have been delineated (Sekaran, 2009, p.158). It involves the subjective assessment of the scale’s ability to measure what it is supposed to measure (Hair et al., 2003) and was demonstrated in this study through the use of a pilot study to evaluate the degree to
which items on the test measured the intended instructional objectives or the content (Tashakkori & Teddlie, 1998).

Construct validity assesses what the construct, concept or scale is measuring and is demonstrated by firstly ensuring the theoretical rationale underlying the measurements obtained and by performing tests to establish convergent and discriminant validity (Hair et al., 2003). Convergent validity is the extent to which the construct is positively correlated with other measures of the same construct while discriminant validity is the extent to which the construct does not correlate with other measures that are different from it (Hair et al., 2003). This was demonstrated in this study by using measurement scales with high reliability scores used in previous studies when developing the questionnaire.

Lastly, criterion-related validity is established when the measure differentiates individuals on a criterion that it is expected to predict (Sekaran & Bougie, 2009). Criterion validity can be established by showing that the scores obtained from the application of the scale being validated are able to predict scores obtained on a theoretically identified dependent variable (Hair et al., 2003). This can be established by demonstrating concurrent validity by constructing some pre-specified association between the scores on the construct being validated and the scores on a dependent variable as determined by theory (Hair et al., 2003). Univariate and multivariate statistical procedures used to analyse the survey data aided in establishing criterion validity in this study. Furthermore, validity can be established for a study by including the instrument used in the study in the appendix of the thesis and to mention whether the type of scales used were categorical or continuous (Creswell, 2009). Both were done in this study.

5.8.2 Qualitative Validity

In qualitative research, more focus is placed on determining whether the account provided by the researcher and the participants is accurate, can be trusted and is credible (Creswell, 2009). Qualitative research using semi-structured interviews will not be able to make generalisations about the entire population (Yin, 2013). Qualitative validity is established when the researcher checks for the accuracy of findings (Creswell, 2009). Qualitative validity was established for this study by firstly ensuring that all interviews that were permitted to be audio recorded were transcribed verbatim. For interviews that were conducted without the permission to record, notes were taken and researcher notes were prepared immediately after the conduct of the respective interviews (Creswell, 2009). Member checking is another validation procedure involving
the interviewees assessing the researcher’s interpretation from the interview by checking whether the interpretations from the respective interviews were correctly represented (Curran & Blackburn, 2000; Leech & Onwuegbuzie, 2007). In this study, member checking was carried out by presenting the respective interview transcripts to two respondents who were willing to review them. Both respondents agreed with the transcripts. Lastly, sharing the summary of findings with the interviewees who had requested for the summaries will increase the involvement of the interviewees in the overall findings. This was also done in this study.

5.9 Research Reliability

(Hair et al., 2010) define reliability as the “extent to which a variable or a set of variables is consistent in what it is intended to measure”. They stated that if multiple measurements are taken, reliable measures will be consistent in their values. Reliability is therefore the degree to which the collection and assessment of information is consistent and free from mistakes or errors (Hess, McNab, & Basoglu, 2014). Tashakkori and Teddlie (1998) stated that to establish quantitative reliability, tests of reliability such as the test of Internal consistency can be utilised. They stated that this measures the degree to which items in a test measure the attribute in a consistent manner. Accordingly, Cronbach’s coefficient alpha values were determined for the scales utilised in this study.

Qualitative reliability indicates that the researcher’s approach is consistent across different researchers and different projects (Creswell, 2009). Reliability plays a minor role in qualitative research and relates primarily to the reliability of coders (Creswell, 2009). Reliability procedures highlighted by (Creswell, 2009) were incorporated in this study. These included checking transcripts to ensure they did not contain obvious mistakes, ensuring that there was no shifting in the meaning of codes during the coding process and including rich descriptions to convey the findings (Creswell, 2009).

5.10 Research Ethics

Sekaran and Bougie (2009, p.15) referred to ethics in business research as a “code of conduct or expected social norm of behavior while conducting research”. In ensuring the ethical conduct of this study, several measures were adopted. Firstly, the study only commenced upon receiving clearance from the University of Western Australia’s (UWA) ethics committee. Next, as discussed in Sections 5.6.2 and 5.7.4, PISs were distributed with every questionnaire and invitation to participate in the interviews. In addition to expressing the purpose of the study, the PIS identified the researcher in terms of the name of the institution, Chief Investigator and second researcher. The
contact details of the Chief Investigator and second researcher as well as the ethics committee of the institution were also included in the PIS. All participants were also provided with the information as to how they were selected for this study in the PIS.

In addition to the PIS, PCFs were distributed together with the invitation for the interviews. At no point in time were the participants coerced into participating in this study. They were also informed of the voluntary nature of the proposed study as well as their right to withdraw at any point in time without the need to provide any reasons or justification. Participants were also assured of the confidentiality of their participation and data collected. All information gathered from this study were kept strictly confidential. Data and audio collected were de-identified and stored in a password-protected computer to ensure the privacy of the information. Audio files were saved in password protected files and will be deleted securely the day after the thesis is to be submitted. This was reflected in the PIS and PCF documents and announced before the commencement of the quantitative and qualitative phases of this study.

5.11 Summary
In summary, this chapter presented an explanation of what business research was and established that this study was a combination of both positivist and interpretivist research methods. Upon reviewing the quantitative, qualitative and mixed-methods research methodologies, the chapter outlined and justified how each phase of the CPMM model was adopted for this study. The study began with a quantitative phase involving the collection of data via questionnaires and was followed with a qualitative phase involving the use of follow-up interviews.

The initial quantitative phase was followed up with a more in-depth qualitative phase to build on the quantitative findings so as to obtain a comprehensive and in-depth exploration of the constructs under study within Singapore SMEs. The use of a combination of questionnaires and semi-structured interviews over the two phases thus ensured the drawing of the advantages of each approach in this study.

For each phase of the study, this chapter outlined and justified how the data were to be collected and analysed. Having collected the data, the findings of both these approaches are presented in the next two chapters. Chapter 6 presents the findings of the quantitative analysis and Chapter 7 subsequently presents the findings of the qualitative analysis.
6. Quantitative Findings

6.1 Introduction

This study examined the relationship between EO, the SDMP and performance within Singapore SMEs. Further to this, the moderating role of the environment on the SDMP-performance relationship within Singapore SMEs was explored. A mixed-methods research design, comprising both quantitative and qualitative approaches, was employed to address the research aims (as identified in Section 1.4). Justifications for applying the mixed-methods research in this study were presented in Section 5.5. The key advantage of adopting a mixed-methods research was that it enabled the researcher to gain a general understanding of the research problem from the collection and subsequent analysis of the quantitative data, while the qualitative data and their analysis aided to refine and explain the statistical results in greater depth. Chapter 5 also described the approach used to collect data in this study, which was carried out in two phases. Phase One involved a questionnaire survey (quantitative method), and the subsequent Phase Two utilised semi-structured in-depth interviews (qualitative method). The previous chapter also presented the various scales used to measure the respective constructs within this study and further outlined the data analysis plan.

The objective of this chapter is to analyse the quantitative data acquired from the questionnaire survey. This chapter begins with a discussion on the response rate achieved in Section 6.2. Section 6.3 then explains the data preparation and screening process prior to the quantitative analysis. This is followed by Section 6.4, which discusses this study's use of both the exploratory and confirmatory factor analyses to assess the construct validity of the measurements. This is followed by Section 6.5, which discusses the reliability analyses performed on the respective scales of EO, SDMP, environment and performance. Section 6.6 then presents the descriptive statistics of the sample of the Singapore SMEs. Section 6.7 will then discuss the measures of central tendency and dispersion. This is followed by Section 6.8, which assesses the reliability and validity of the PLS-SEM's measurement models. This is followed by Section 6.9, which assesses the structural model of PLS-SEM. Section 6.10 follows up with an assessment of the moderator variable within the model. This is followed by Section 6.11, which presents the inferential statistics. The inferential statistics includes the results of the analysis used to examine hypotheses H0 to H7b. The chapter finally concludes with a summary of the quantitative findings.
6.2. Response Rate

The response rate refers to the number of completed questionnaires out of the total number of respondents targeted (Neuman & Robson, 2012). A total of 321 responses were obtained from the targeted sample size of 1189 (inclusive of Database members and Workshop attendees). This equated to a response rate of 27%, which was close to the anticipated 30% discussed in Section 5.6.1. This response rate, however, was achieved mainly from the responses obtained from the workshop attendees. To illustrate, out of the 189 attendees of the 10 workshops from which the data were collected (as discussed in Section 5.6.2), 143 workshop attendees filled in the questionnaires. This equated to a response rate of 75%. This high response rate was achieved mainly due to the researcher being able to motivate the attendees, in person, to participate in the research by highlighting the importance of the study and the value of the attendees’ participation to the study. In comparison, 178 questionnaire responses were obtained from the postal survey distributed to 1000 SMEs listed in the DP Information Group Top 1000 Singapore SMEs database (discussed in Section 5.6.2). This response rate of around 18%, while low, is comparable to those of other studies on SMEs in the area of SDMP and EO (e.g., Martins & Rialp, 2011; Wang, 2008). Given that the survey was unsolicited, the length of the questionnaire could have been an issue. Furthermore, the respondents were SMEs that, in comparison with large organisations, may have a lower propensity to respond. Discussed next is the summary of the key steps undertaken in the analysis of the quantitative data gathered in this study.

6.3 Data Screening

Data collected through the questionnaires were coded and entered into SPSS version 23. It is essential to check the dataset for errors to firstly identify and subsequently correct variables that are either out-of-range or erroneous (Pallant, 2013). Errors present in the dataset may distort the statistical analysis and need to be corrected by inspecting each variable to ensure that the values fall within the allowed minimum and maximum values (Hair et al., 2010; Pallant, 2013). Screening the dataset before the conduct of any multivariate analysis further enabled the researcher to develop a basic understanding of the data and of any relationship that may exist between different variables (Hair et al., 2010). As suggested by Pallant (2013), the frequencies for both the categorical and continuous variables in the data set, as well as the corresponding minimum and maximum values, were checked to ensure that they were within range. As part of the preparation and screening process, data were also examined for missing data, normality and outliers.
Missing Data

Missing data refer to the non-availability of valid values on one or more variables for the conduct of multivariate analysis and is a common problem in multivariate analysis (Hair et al., 2010). The missing value analysis function within SPSS was used to assess the missing data within the dataset. A four-step process for identifying and applying remedies for missing data was then carried out as suggested by Hair et al., (2010). The first step involved examining the missing data to determine whether the missing data were ‘ignorable or not ignorable’ (Hair et al., 2010). The ‘ignorable’ missing data, defined as missing data that are expected and part of the research design, do not require specific remedies (Hair et al., 2010). Hair et al (2010) stated that these are common forms of missing data where respondents skip sections of questions that are not applicable to them. It was deemed that the ‘not ignorable’ missing data were evident in this study as the respondents had failed to respond to certain questions, which was potentially due to either them having no opinions or insufficient knowledge to answer those questions (Hair et al., 2010).

Step two involved determining the extent of the missing data. In analysing the percentage of missing data in individual cases, no further action was taken on those cases with less than 10% of missing data. This was consistent with the postulation of Hair et al. (2010, p.47), who suggested that missing data under 10% for an individual case or observation “can generally be ignored”. There were, however, 24 cases with missing data of between 59% and 100%. These 24 cases were deleted from the dataset. This was consistent with Hair et al’s (2010, p.48) recommendation that “cases with 50% or more missing data should be deleted”. Step 3 then involved diagnosing the randomness of the missing data processes in order to select the appropriate process of imputation (Step 4). The missing data in this study were found to be missing completely at random (MCAR). The highest percentage of missing data (100%) for variables involved the open-ended questions (83.5% to 100%) as well as the request for feedback (38.6%) and indication to participate in the interview (46.7%) questions. In Step 4, the Exclude Cases Pairwise option was chosen as the method of imputation for missing values for all multivariate analyses to be carried out (Hair et al., 2010). Cases were excluded only if the data required for the specific analysis were missing (Pallant, 2013). Such an approach maximised the data utilised and overcame the problem of missing data on a single variable eliminating the case from the entire analysis (Hair et al., 2010).

The discussion above highlighted how the missing data in this study were identified and remedied. Out of the 297 remaining questionnaires, a further 11 questionnaires
were excluded from the final analysis as the respondents had provided job titles that were not at the strategic level. Eight cases were also deleted as the respondents had only started operations in 2015 and it was deemed that it was too soon for them to have developed a strategic process in such a short time. As a result, a total of 278 usable questionnaires were available for the multivariate analysis to be carried out.

**Data Distribution**

Normality is used to describe a symmetrical bell-shaped curve, where the greatest frequency of scores obtained from the sample is clustered around the middle of the curve, or the mean, and the smaller frequencies are towards the extremes (Hair et al., 2010; Pallant, 2013; Sekaran & Bougie, 2009). The normality assumption thus asserts that the individual variables' shape should not significantly deviate from the form of a normal distribution (Garson, 2006).

As PLS-SEM is a nonparametric statistical technique, it does not require the data to be normally distributed (Hair et al. 2016). However, Hair et al. (2016) suggested that it was important to check that the data were not too far from normality. This is due to the fact that extremely non-normal data can prove problematic in assessing the parameter's significances. Therefore, normality was still examined in this study, using both statistical tests and graphical plots (Hair et al., 2010). Firstly, the examination of the results of the Kolmogorov-Smirnov statistic for all variables in this study indicated a violation of the assumption of normality as the Sig. value was .000. A non-significant result (> .05) indicates normality (Hair et al., 2010; Pallant, 2013). The visual inspection of the histograms and normal probability plots of the respective variables further confirmed several departures from normality. Hair et al., (2010, p. 77), however, added that the severity of non-normality is based on the sample size, where the impact of non-normality "effectively diminishes when sample sizes reach 200 cases or more". In addition, Kline (2015) stated that a variable with a skewness value of greater than 3.0 is described as ‘extremely’ skewed, while a kurtosis value greater than 8.0 is categorised as ‘extreme’ kurtosis. Accordingly, the values for skewness and kurtosis of all variables in this study ranged from values of -1.17 to .06 and from values of .991 to 1.673 respectively. This implied that the assumption of normality for this study was reasonably satisfied.

**Outliers**

Outliers are defined as having a unique combination of characteristics that distinctly differ from the other observations (Hair et al., 2010). Tabachnick and Fidell (2007) defined outliers as cases having a standardised residual of more than 3.3 or less than -
3.3. Such outliers were identified in this current study by inspecting the Boxplots for the various variables. Several outliers and extreme points, which Pallant (2013) defined as being more than 1.5 box-lengths from the edge of the Boxplots, were identified. Consistent with Pallant’s (2013) recommendations, the original mean of each of the identified variable was then compared against its 5% trimmed mean and it was found that the two mean values were similar for all identified variables. As a result, no further action was required, as the extreme scores did not strongly influence the respective mean values (Pallant, 2013). Furthermore, Hair et al. (2010) added that outliers should be retained where possible as deletion limits generalisability.

Based on the above discussion, it is implied that data used in this study satisfied the assumptions of multivariate statistics. Prior to the conduct of the data analysis, it is also important to re-establish the validity and reliability of the measurement scales used (Creswell, 2009), particularly considering that the scales used in this study had been modified. Discussed next is the examination of the validity of the measurement scales used.

6.4 Validity of Measurement Scales
This study employed factor analysis to evaluate the internal validity of the various scales used to measure the respective constructs of EO, SDMP, the environment and performance. Factor analysis is an analytic technique that is used extensively by researchers to evaluate scales (Pallant, 2013). Factor analysis does not define the constructs; but rather provides information on the number of different constructs that are measured. This information, supported by the theoretical background, suggests that the items used to measure each construct do, indeed, measure the construct they were designed to measure. Following previous studies (eg., Messersmith & Wales, 2011; Su et al., 2015; Tang & Hull, 2012), a Harman’s single factor test was first performed to test for common method bias. This test is conducted by loading each of the study variables into an exploratory factor analysis. If a single factor is found after performing this test, it is likely that common method bias exists (Podsakoff & Organ, 1986). The items measuring SDMP, EO, environment and performance were entered into a principal factor analysis. The results of this test provided 13 components with an eigenvalue exceeding 1.0 and explained 64.72% of the cumulative variance. This result, therefore, suggested that common method variance was not substantial in this study (Podsakoff & Organ, 1986).

Following the above discussed exploratory factor analysis, confirmatory factor analysis was then carried out for each of the constructs (EO, SDMP, environment and
performance) included in this study. The principal components analysis (PCA) with Varimax rotation was used to minimise the complexity of the factors by increasing the variance loading on each factor (Tabachnick & Fidell, 2007). This approach is consistent with previous research involving the constructs under study (e.g., Kroeger, 2007; Messersmith & Wales, 2011; Metts, 2004).

Prior to performing PCA, the suitability of the data for factor analysis was assessed by inspecting the correlation matrix to identify the presence of coefficients of .3 and above. It was also intended that the Kaiser-Meyer-Olkin value exceeded the recommended value of .6 (Kaiser & Rice, 1974) and the Bartlett Test of Sphericity (Bartlett, 1954) reached statistical significance with a value of .05 or smaller. Pairwise deletion of missing data was used and since factor loadings are sensitive to sample size, the criteria set out by Hair et al. (2010) was used to determine if the different factor loadings were significant. For a sample size of between 250 to 350 cases, Hair et al. (2010) reported that factor loadings of .35 or larger be considered significant. In order to assess the discriminant validity of the different items, it was intended that cross-loadings should be larger than .30. In determining the numbers of factors that can be used to best represent the interrelations among the set of variables, this study employed three criteria. The three criteria included variance percentage, Kaiser’s criterion and scree plot test (Hair et al., 2010). A factor that accounted for less than 5% of the variance was considered not important for further investigation. Furthermore, only factors with an eigenvalue of 1.0 or more were retained. The PCA analysis of the various scales used in this study are discussed next.

6.4.1 SDMP Scale
All 14 items of the SDMP scale were subjected to the PCA. The initial PCA revealed the presence of three components with eigenvalues exceeding 1, explaining 27.8%, 16.7% and 7.36% of the variance respectively. The Kaiser-Meyer-Olkin value was .836 and the Bartlett Test of Sphericity reached statistical significance with a value of .000. Although the screeplot revealed a clear break after the third component, it was decided that only two components would be retained for further investigation as the two variables in the third component displayed high cross-loadings (> .38) on other factors. Furthermore, the hypotheses developed for this study involved two SDMPs and the ultimate objective of factor analysis is to obtain a factor structure “with both empirical and conceptual support” (Hair et al., 2010, p. 120). As a result, a second round of PCA was conducted. This time, a two-factor component solution was ‘forced’, which explained a total of 44.53% of the variance. Component 1 contributed 27.78% of the variance, while Component 2 contributed 16.74% of the variance. The Kaiser-Meyer-
Olkin values and Bartlett Test of Sphericity (Bartlett, 1954) remained unchanged from the initial analysis. The interpretation of the two components was consistent with previous research on the SDMP scale, with deliberate SDMP items loading strongly on Component 1 and emergent SDMP items loading strongly on Component 2 as suggested by the scale authors (Bailey et al., 2000). All items, factor loadings and fit statistics of the SDMP scale are summarised in Table 15.

Table 15: Overall PCA for SDMP Scale

<table>
<thead>
<tr>
<th>Items</th>
<th>λ</th>
<th>λ</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Deliberate SDMP</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SDMPDQ7</td>
<td>We have definite and precise strategic objectives.</td>
<td>.752</td>
</tr>
<tr>
<td>SDMPDQ2</td>
<td>When we formulate a strategy, it is planned in detail.</td>
<td>.742</td>
</tr>
<tr>
<td>SDMPDQ8</td>
<td>We make strategic decisions based on a systematic analysis of our business environment.</td>
<td>.740</td>
</tr>
<tr>
<td>SDMPDQ6</td>
<td>We evaluate potential strategic options against clearly stated and detailed strategic objectives.</td>
<td>.734</td>
</tr>
<tr>
<td>SDMPDQ3</td>
<td>We have precise procedures for achieving strategic objectives.</td>
<td>.676</td>
</tr>
<tr>
<td>SDMPDQ4</td>
<td>We have well-defined planning procedures to search for solutions to strategic problems.</td>
<td>.665</td>
</tr>
<tr>
<td>SDMPDQ5</td>
<td>We meticulously assess many alternatives when deciding on a strategy.</td>
<td>.596</td>
</tr>
<tr>
<td>SDMPDQ1</td>
<td>Our strategy is made explicit in the form of precise plans.</td>
<td>.587</td>
</tr>
<tr>
<td><strong>Emergent SDMP</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SDMPEQ2</td>
<td>Our strategy is continually adjusted as changes occur in the market place.</td>
<td>.716</td>
</tr>
<tr>
<td>SDMPEQ1</td>
<td>Our strategy develops through a process of ongoing adjustment.</td>
<td>.706</td>
</tr>
<tr>
<td>SDMPEQ3</td>
<td>To keep in line with our business environment, we make continual small-scale changes to our strategy.</td>
<td>.657</td>
</tr>
<tr>
<td>SDMPEQ4</td>
<td>Our strategies emerge gradually as we respond to the need to change.</td>
<td>.587</td>
</tr>
<tr>
<td>SDMPEQ5</td>
<td>We keep early commitment to a strategy tentative and subject to review.</td>
<td>.573</td>
</tr>
<tr>
<td>SDMPEQ6</td>
<td>We tend to develop strategy by experimenting and trying new approaches in the market place.</td>
<td>.455</td>
</tr>
</tbody>
</table>

Model fit statistics: KMO = .836; Approx Chi Square = 940.644; df = 91; Sig = .000
Factor loadings smaller than .35 have been suppressed
All items were scored from 1 to 7

6.4.2 EO Scale
The EO construct used in this study comprised of the five dimensions of innovativeness, risk-taking, proactiveness, autonomy and competitive aggressiveness (discussed in Section 3.3). A PCA conducted on all 18 items of the EO scale revealed the presence of five components with eigenvalues exceeding 1, explaining 66.8% of the total variance. Component 1 contributed 19.9%, Component 2 contributed 19.9%, Component 3 contributed 14.3%, Component 4 contributed 8.12% while Component 5 contributed 7.61% of the variance respectively. The Kaiser-Meyer-Olkin value was .74 and the Bartlett Test of Sphericity reached statistical significance with a value of .000. All items, factor loadings and fit statistics of the EO scale are summarised in Table 16.
Table 16: Overall PCA for EO Scale

<table>
<thead>
<tr>
<th>Items</th>
<th>Description</th>
<th>λ</th>
<th>λ</th>
<th>λ</th>
<th>λ</th>
<th>λ</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Innovativeness</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EOInnoVQ3</td>
<td>In my organisation, changes in products or services have been mostly of a minor nature as opposed to changes in products or services having usually been quite dramatic.</td>
<td>.786</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>RevEOInnoVQ5</td>
<td>In my organisation, there is a preference to design our own unique new processes and methods of operations as opposed to having a preference to adapt methods and techniques that others have developed and proven.</td>
<td>.774</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EOInnoVQ4</td>
<td>In general, the top managers of my organisation favour experimentation and original approaches to problem solving as opposed to imitating methods that other organisations have used for solving their problems.</td>
<td>.747</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>RevEOInnoVQ2</td>
<td>In my organisation, no new products or services have been marketed in the past five years (or since the organisation's establishment) as opposed to very many new products or services having been marketed in the past five years (or since the organisation's establishment).</td>
<td>.743</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EOInnoVQ1</td>
<td>In general, the top managers of my organisation favour a strong emphasis on the marketing of tried-and-true products or services as opposed to a strong emphasis on R&amp;D, technological leadership, and innovations.</td>
<td>.490</td>
<td>.443</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Risk-Taking</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EORiskQ2</td>
<td>In general, the top managers of my organisation favour a strong preference for low-risk projects (with normal and certain rates of return) as opposed to a strong preference for high-risk projects (with chances of very high returns).</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.833</td>
</tr>
<tr>
<td>EORiskQ1</td>
<td>In general, the top managers of my organisation favour exploring the environment gradually via cautious, incremental behaviour in achieving the organisation's objectives due to the nature of the environment as opposed to using bold, wide-ranging acts in achieving the organisation's objectives due to the nature of the environment.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.805</td>
</tr>
</tbody>
</table>
### EORiskQ4
When confronted with decision-making situations involving uncertainty, my organisation typically adopts a cautious, “wait-and-see” posture in order to minimise the probability of making costly decisions as opposed to typically adopting a bold, aggressive posture in order to maximise the probability of exploiting potential opportunities.

### EORiskQ3
In general, the top managers of my organisation favours studying a problem thoroughly before deploying resources to solve it as opposed to being quick to spend money on potential solutions if problems are holding us back.

### Autonomy

<table>
<thead>
<tr>
<th>Question</th>
<th>Description</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>RevEOAtnmyQ1</td>
<td>In general, the top managers of my organisation favour allowing individuals and/or teams to decide for themselves what business opportunities to pursue for best results as opposed to allowing the CEO and top managers to provide the primary impetus for pursuing business opportunities.</td>
<td>.845</td>
</tr>
<tr>
<td>RevEOAtnmyQ3</td>
<td>In my organisation, individuals and/or teams pursuing business opportunities make decisions on their own without constantly referring to their supervisors as opposed to individuals and/or teams pursuing business opportunities having to obtain approval from their supervisors before making decisions.</td>
<td>.817</td>
</tr>
<tr>
<td>RevEOAtnmyQ2</td>
<td>In my organisation, there is support for the efforts of individuals and/or teams that work autonomously as opposed to having support for the idea of requiring individuals and/or teams to rely on senior managers to guide their work.</td>
<td>.796</td>
</tr>
<tr>
<td>EOAtnmyQ4</td>
<td>In my organisation, the CEO and top management team play a major role in identifying and selecting the entrepreneurial opportunities my organisation pursues as opposed to employee initiatives and inputs playing a major role in identifying and selecting the entrepreneurial opportunities my organisation pursues.</td>
<td>.759</td>
</tr>
</tbody>
</table>
### Proactiveness

<table>
<thead>
<tr>
<th>Question</th>
<th>Description</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>EOProActQ4</td>
<td>In general, the top managers of my organisation favour a strong tendency to “follow the leader” in introducing new products or ideas as opposed to a strong tendency to be ahead of other competitors in introducing novel ideas or products.</td>
<td>.778</td>
</tr>
<tr>
<td>EOProActQ2</td>
<td>In dealing with its competitors, my organisation is very seldom the first business to introduce new products/services, administrative techniques, operating technologies, etc as opposed to often being the first business to introduce new products/services, administrative techniques, operating technologies and etc.</td>
<td>.770</td>
</tr>
<tr>
<td>EOProActQ1</td>
<td>In dealing with its competitors, my organisation typically responds to actions which competitors initiate as opposed to initiating actions to which competitors then respond.</td>
<td>.696</td>
</tr>
</tbody>
</table>

### Competitive Aggressiveness

<table>
<thead>
<tr>
<th>Question</th>
<th>Description</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>RevEOCAQ1</td>
<td>In dealing with its competitors, my organisation is very aggressive and intensely competitive to take business from the competition as opposed to making no special effort to take business from the competition.</td>
<td>.824</td>
</tr>
<tr>
<td>EOProActQ3</td>
<td>In dealing with its competitors, my organisation typically seeks to avoid competitive clashes, preferring a “live-and-let-live” posture as opposed to adopting a very competitive, “undo-the-competitors” posture.</td>
<td>.419</td>
</tr>
</tbody>
</table>

Model fit statistics: KMO = .742; Approx Chi Square = 1815.202; df = 153; Sig = .000
Factor loadings smaller than .35 have been suppressed
All items were scored from 1 to 7
The screeplot revealed a clear break after the fourth and fifth components. The five-component solution was retained as most of the variables loaded as expected with the interpretation of the five components being consistent with previous research on the EO scale. Innovativeness loaded strongly on Component 1, risk-taking loaded strongly on Component 2, autonomy loaded strongly on Component 3, proactiveness loaded strongly on Component 4 while competitive aggressiveness loaded strongly on Component 5. However, there were significant cross-loadings for items EOInnoVQ1 (> .44), EOProActQ1 (> .48) and EOProActQ3 (> .41). It was, however, decided that all three of these items be retained. This was consistent with Hair et al’s, (2010) postulation that problematic variables be ignored and that the solution be interpreted as is, especially if the variable is of high importance to the study’s objective. As a result, although item EOInnoVQ1 had significant cross-loading, it was not deleted and was retained together with the other items measuring innovativeness in Component 1. Similarly, item EOProActQ1 was retained with the other items measuring proactiveness in Component 4. It was, however, noted that both these items were poorly represented in the factor solution and therefore represented a key limitation in this study.

In relation to item EOProActQ3, this item was not retained together with the other proactiveness items in Component 4 (as suggested by Lumpkin et al., (2009), the developers of the EO scale used in this study). It was instead retained with Component 5, which measured competitive aggressiveness. This was done for two reasons. Firstly, item EOProActQ3 had a higher loading in Component 5 than in Component 4. Moreover, Lumpkin and Dess (2001) had previously developed another scale comprising of these two items to measure competitive aggressiveness. Given that there was theoretical support for this competitive aggressiveness scale (Component 5), the two aforementioned items were therefore retained (Hair et al., 2010).

6.4.3 Environment Scale
The PCA for the environment scale was conducted thrice due to unsatisfactory results in the initial two processes. All 15 items of the environment scale were subjected to the initial PCA. This analysis revealed the presence of four components with eigenvalues exceeding 1, explaining 37.41%, 13.80%, 10.366% and 7.55% of the variance respectively. The Kaiser-Meyer-Olkin value was .872 and the Bartlett Test of Sphericity reached statistical significance with a value of .000. Although the screeplot revealed a clear break after the second and fifth components, it was decided that only three components would be retained for further investigation in line with the theoretical support of the three dimensions (instability, complexity and munificence) of the environment used in this study.
A second round of PCA was conducted, where a three-factor component solution was ‘forced’. Once again, the presence of four components was revealed with eigenvalues exceeding 1 and explaining a total of 69.42% of the variance. Specifically, Component 1 contributed 37.41%, Component 2 contributed 51.21% and Component 3 contributed 61.87% of the variance respectively. The Kaiser-Meyer-Olkin and Bartlett Test of Sphericity values remained unchanged from the initial analysis. The interpretation of the three components was largely consistent with previous research on the environment scale, with instability loading strongly on Component 1, munificence loading strongly on Component 2 and complexity loading strongly on Component 3 as suggested by the scale authors (Miller & Friesen, 1982). However, item EnvCmplxQ1 loaded in Component 2 (munificence) and was negative in value (-.437). As a result, item EnvCmplxQ1 was dropped and a three-factor solution was again ‘forced’ with the remaining 14 items. This time, three components exceeding 1 eigenvalue explained 61.40% of the variance. Component 1 contributed 39.61%, Component 2 contributed 14.72% and Component 3 contributed 11.07% of the variance respectively. The Kaiser-Meyer-Olkin value was .875 and Bartlett Test of Sphericity was significant at .000. All items loaded strongly on the respective components. All items, factor loadings and fit statistics of the environment scale are summarised in Table 17.
Table 17: Overall PCA for Environment Scale

<table>
<thead>
<tr>
<th>Items</th>
<th>λ</th>
<th>λ</th>
<th>λ</th>
</tr>
</thead>
<tbody>
<tr>
<td>Instability</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EnvInstabQ5</td>
<td>In terms of the environment, the production/service technology is not subject to very much change and is well established as opposed to the modes of production/service changing often and in a major way.</td>
<td>.845</td>
<td></td>
</tr>
<tr>
<td>EnvInstabQ4</td>
<td>In terms of the environment, demand and consumer tastes are easy to forecast as opposed to demand and tastes being unpredictable.</td>
<td>.835</td>
<td></td>
</tr>
<tr>
<td>EnvInstabQ2</td>
<td>In terms of the environment, the rate at which products/services are getting obsolete in the industry is very slow (eg. every five years) as opposed to the rate of obsolescence being very high (eg. less than a year).</td>
<td>.796</td>
<td></td>
</tr>
<tr>
<td>EnvInstabQ3</td>
<td>In terms of the environment, actions of competitors are quite easy to predict as opposed to actions of competitors being unpredictable.</td>
<td>.788</td>
<td></td>
</tr>
<tr>
<td>EnvInstabQ1</td>
<td>In terms of the environment, our organisation must rarely (eg. every five years) change its marketing practices to keep up with the market and competitors as opposed to changing its marketing practices extremely frequently (eg. semi-annually).</td>
<td>.678</td>
<td></td>
</tr>
<tr>
<td>Munificence</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EnvMunifeQ6</td>
<td>Severity of government interference to your organisation?</td>
<td>.841</td>
<td></td>
</tr>
<tr>
<td>EnvMunifeQ5</td>
<td>Severity of scarce supply of labour/materials to your organisation?</td>
<td>.776</td>
<td></td>
</tr>
<tr>
<td>EnvMunifeQ3</td>
<td>Severity of competition in product quality or novelty to your organisation?</td>
<td>.695</td>
<td></td>
</tr>
<tr>
<td>EnvMunifeQ4</td>
<td>Severity of dwindling markets for products to your organisation?</td>
<td>.695</td>
<td></td>
</tr>
<tr>
<td>EnvMunifeQ1</td>
<td>The environment causes a great deal of threat to the survival of our organisation as opposed to there being very little threat to survival.</td>
<td>.577</td>
<td></td>
</tr>
<tr>
<td>EnvMunifeQ2</td>
<td>Severity of tough price competition to your organisation?</td>
<td>.571</td>
<td></td>
</tr>
<tr>
<td>Complexity</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EnvComplxQ3</td>
<td>Are there great differences amongst the product(s)/service(s) you offer with regard to the nature of the competition?</td>
<td>.881</td>
<td></td>
</tr>
<tr>
<td>EnvComplxQ2</td>
<td>Are there great differences amongst the product(s)/service(s) you offer with regard to customer's buying habits?</td>
<td>.880</td>
<td></td>
</tr>
<tr>
<td>EnvComplxQ4</td>
<td>Are there great differences amongst the product(s)/service(s) you offer with regard to market dynamism and uncertainty?</td>
<td>.872</td>
<td></td>
</tr>
</tbody>
</table>

Model fit statistics: KMO = .875; Approx Chi Square = 1909.668; df = 91; Sig = .000
Factor loadings smaller than .35 have been suppressed
All items were scored from 1 to 7
6.4.4 Performance Scale

In relation to the six items of the performance scale, the initial PCA revealed two components with eigenvalues exceeding 1, explaining 49.08% and 18.72% of the variance respectively. The Kaiser-Meyer-Olkin value was .763 and the Bartlett Test of Sphericity value reached statistical significance with a value of .000. The screeplot revealed a clear break after the second component, with the interpretation of the two components consistent with financial items loading strongly on Component 1 and non-financial items loading strongly on Component 2. It was decided that only one component would be retained for further investigation, in line with the unidimensional construct of performance as used in this study. A second round of PCA was then conducted on the performance scale. This time, a single factor component solution was ‘forced’, which explained a total of 67.81% of the variance. All six items loaded strongly on this single component. The Kaiser-Meyer-Olkin and Bartlett Test of Sphericity values remained unchanged from the initial analysis. The interpretation of the single component was also consistent with the postulations of the scale authors (Khatri & Ng, 2000). All scale items, factor loadings and fit statistics for the performance scale are summarised in Table 18.

Table 18: Overall PCA for Performance Scale

<table>
<thead>
<tr>
<th>Items</th>
<th>( \lambda )</th>
</tr>
</thead>
<tbody>
<tr>
<td>PrfmROAQ3</td>
<td>Return on assets</td>
</tr>
<tr>
<td>PrfmSalesQ2</td>
<td>Growth in sales</td>
</tr>
<tr>
<td>PrfmProfitQ1</td>
<td>Overall profitability</td>
</tr>
<tr>
<td>PrfmEffncyQ4</td>
<td>Operational efficiency</td>
</tr>
<tr>
<td>PrfmCustSvcQ5</td>
<td>Quality of customer service</td>
</tr>
<tr>
<td>PrfmImageQ6</td>
<td>Image</td>
</tr>
</tbody>
</table>

Model fit statistics: KMO = .763; Approx Chi Square = 496.444; df = 15; Sig = .000
Factor loadings smaller than .35 have been suppressed
All items were scored from 1 to 5

In sum, PCA was conducted on each of the measurement scales used in this study to determine the validity of the respective constructs. It was found that all scales satisfied the requirements of validity.

6.5 Reliability of Measurement Scales

The reliability of measurement scales, especially the scale’s internal consistency, has to be checked to ensure that the same underlying construct is being measured (Hair et al., 2010; Pallant, 2013). One of the most commonly used indicators of internal consistency is Cronbach’s alpha value, which should be above .7 (Hair et al., 2010; Pallant, 2013). Accordingly, internal consistency was assessed in this study by computing Cronbach alpha values for all survey items used in the study. Bailey et al.
reported good internal consistency for the SDMP scale, with Cronbach alpha values averaging .7. In this study, the Cronbach alpha value for the deliberate SDMP scale was .844. The Cronbach alpha value for the emergent SDMP scale was however, much lower at .675. Although this result was less than ideal, it has been argued that the .70 threshold value for acceptable reliability is not an absolute standard, and that a value of .60 is well within the satisfactory range (Hair et al., 2010; Numally, 1978).

In relation to the scale reliability for each of the dimensions of EO, innovativeness, risk-taking and autonomy all reported good internal consistency with Cronbach alpha values of .798, .821 and .824 respectively. The Cronbach alpha value for proactiveness was initially .645. However, upon checking the corrected item-total correlation values, it was revealed that item EOProActQ3 had a value of less than the expected .3, indicating that the item was measuring something different from the scale as a whole (Pallant, 2007). This item was removed and the newly computed Cronbach alpha for proactiveness was .725. The removal of EOProActQ3 from the proactiveness scale during the PCA, as discussed in Section 6.4.2, was thus further supported in this instance. Accordingly, the Cronbach alpha value for competitive aggressiveness was computed using items EOCAQ1 and EOProActQ3 based on the Lumpkin and Dess (2001) scale (as discussed in Section 6.4.2). Although the Cronbach alpha value in this instance was low at .429, it is common to find such low Cronbach alpha values for scales with a small number of items (Pallant, 2013). In such cases, it is more appropriate to report the mean inter-item correlation for the items, which should have an optimal range of .2 to .4 (Briggs & Cheek, 1986). Given that the mean inter-item correlation for items EOCAQ1 and EOProActQ3 was .274, this competitive aggressiveness scale was deemed to have satisfied the requirements of reliability.

According to Miller and Friesen (1982), the environment scale has good internal consistency with Cronbach alpha values averaging .74 reported. In this study, the Cronbach alpha value was .85. However, checking the inter-item correlation matrix revealed that item EnvComplxQ1 had a negative value. This provided further support for the decision to remove this variable during the PCA, as discussed in Section 6.4.3. This item was subsequently dropped for the reliability analysis and the newly computed Cronbach alpha value for the environment scale was .879. Finally, (Khatri & Ng, 2000) reported a Cronbach Alpha averaging .74 for the performance scale. In this study, the Cronbach alpha value was .784. In sum, all scales used in this study were found to be internally consistent.
6.6 Descriptive Statistics

This section provides an overview of the descriptive statistics for the data collected from the respondents. The respondents comprised of owner-managers of SMEs listed in the DP Information Group Top 1000 Singapore SMEs database as well as owner-managers of SMEs attending training workshops (discussed in Section 5.6.2). A better understanding of the respondents can be obtained by reviewing some of the demographic variables. In relation to the company background of the respondents, the average year in which the SMEs were founded was 2001. While the youngest SMEs were founded in 2014, the oldest was founded in 1970. Of the 278 respondents, private limited companies constituted the largest percentage of business types at almost 67% (185). The next common business classifications included partnerships at 14% (39) and limited liability partnerships at 13% (36). 53% (147) of the respondents had a staff size of between 20 to 100 employees, with respondents having fewer than 20 employees accounting for a further 28% (77). In relation to the sector in which the respondents operated, 80% (223) were from the services sector while the rest (52) were from the manufacturing sector. Three respondents failed to indicate their operating sector. This ratio of 80% of the respondents belonging to the services sector and 20% in manufacturing was reflective of the structure of the Singapore economy as a whole (SingStat, 2016d). Table 19 provides the summarised breakdown for the business type, employee size and sector of the respondents.

Table 19: Company Profile of the Respondents

<table>
<thead>
<tr>
<th>Type of Organisation</th>
<th>Total Sample</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>f</td>
</tr>
<tr>
<td>Sole Proprietorship</td>
<td>18</td>
</tr>
<tr>
<td>Partnership</td>
<td>39</td>
</tr>
<tr>
<td>Limited Liability Partnership</td>
<td>36</td>
</tr>
<tr>
<td>Private Limited</td>
<td>185</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>278</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Employee Size of Organisation</th>
<th>Total Sample</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>f</td>
</tr>
<tr>
<td>Less than 20 employees</td>
<td>77</td>
</tr>
<tr>
<td>20 – 100 employees</td>
<td>147</td>
</tr>
<tr>
<td>101 – 200 employees</td>
<td>54</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>278</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Sector to which Organisation Belongs</th>
<th>Total Sample</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>f</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>52</td>
</tr>
<tr>
<td>Services</td>
<td>223</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>275*</td>
</tr>
</tbody>
</table>

* 3 missing values

In terms of the personal profile of the respondents, Executive Directors accounted for 39% (109). Managing Directors at 22% (61) and Part Owners at 21% (58) constituted
the other common job titles amongst the respondents. Males represented the majority of the respondents at almost 69% (191). One respondent had failed to answer the question on gender. Close to 37% (102) of the respondents fell within the 40 to 49 year old age group. The next common age group of the respondents was between 50 to 59 years old, with seven respondents failing to answer the question on their age. In relation to education, almost 42% of the respondents possessed a Bachelor’s degree, followed by 34% (93) having a Masters degree. Three respondents had failed to answer the question on educational qualifications. Table 20 provides the breakdown of the respondents’ personal profile.

Table 20: Personal Profile of the Respondents

<table>
<thead>
<tr>
<th>Total Sample</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Job Title</strong></td>
<td></td>
</tr>
<tr>
<td>Sole Owner</td>
<td>26</td>
</tr>
<tr>
<td>Part Owner</td>
<td>58</td>
</tr>
<tr>
<td>Chief Executive Officer</td>
<td>23</td>
</tr>
<tr>
<td>Managing Director</td>
<td>61</td>
</tr>
<tr>
<td>Executive Director</td>
<td>109</td>
</tr>
<tr>
<td>Other</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>278</td>
</tr>
<tr>
<td><strong>Gender</strong></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>191</td>
</tr>
<tr>
<td>Female</td>
<td>86</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>277*</td>
</tr>
<tr>
<td><strong>Age</strong></td>
<td></td>
</tr>
<tr>
<td>Less than 30 years old</td>
<td>45</td>
</tr>
<tr>
<td>30 – 39 years old</td>
<td>37</td>
</tr>
<tr>
<td>40 – 49 years old</td>
<td>102</td>
</tr>
<tr>
<td>50 – 59 years old</td>
<td>76</td>
</tr>
<tr>
<td>60 years and above</td>
<td>11</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>271***</td>
</tr>
<tr>
<td><strong>Highest Educational Qualification</strong></td>
<td></td>
</tr>
<tr>
<td>Primary Education</td>
<td>1</td>
</tr>
<tr>
<td>Secondary Education</td>
<td>10</td>
</tr>
<tr>
<td>College (‘A’ Levels)</td>
<td>4</td>
</tr>
<tr>
<td>Polytechnic Diploma</td>
<td>36</td>
</tr>
<tr>
<td>Bachelor Degree</td>
<td>116</td>
</tr>
<tr>
<td>Masters Degree</td>
<td>93</td>
</tr>
<tr>
<td>Doctoral Qualification</td>
<td>15</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>275**</td>
</tr>
</tbody>
</table>

* 1 missing value; ** 3 Missing values; *** 7 missing values

The above discussion on the demographic profile of the respondents suggested that a diverse range of business types and owner-managers, from across industries and personal profiles, had attempted the questionnaires. This made the data more representative and exploratory in understanding the phenomenon of interest.
6.7 Measures of Central Tendency, Dispersion and Correlation

The better understanding of SME attributes and performance can be further explored by using descriptive analysis measures to reveal central tendency and dispersion (Sekaran & Bougie, 2009). In this study, the mean was used as the measure of central tendency to locate a central value for the distribution of the responses. The dispersion of responses to a particular question was explained by the standard deviation. Table 21 summarises the output of the descriptive analysis measures for the set of variables pertaining to the SDMP, EO, environment and performance. These measures were derived from the total scale scores (TSS) computed for each of the aforementioned constructs. Apart from performance, which was measured using a 5-point scale, the rest of the constructs were based on a 7-point scale.
Table 21: Measures of Central Tendency, Dispersion and Pearson Product-Moment Correlation Coefficients for SDMP, EO, Environment and Performance

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>SD</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
<th>13</th>
<th>14</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SDMP</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 TSS Deliberate</td>
<td>3.95</td>
<td>.96</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 TSS Emergent</td>
<td>5.55</td>
<td>.65</td>
<td>.09</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td><strong>EO</strong></td>
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<td></td>
</tr>
<tr>
<td>3 TSS EO Innovativeness</td>
<td>4.96</td>
<td>1.06</td>
<td>-.084</td>
<td>.08</td>
<td>-</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>4 TSS EO Risk-Taking</td>
<td>3.47</td>
<td>1.33</td>
<td>.084</td>
<td>-.13*</td>
<td>-.13*</td>
<td>-</td>
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<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5 TSS EO Proactiveness</td>
<td>4.58</td>
<td>1.20</td>
<td>-.057</td>
<td>.32</td>
<td>.40**</td>
<td>.10</td>
<td>-</td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6 TSS EO Autonomy</td>
<td>3.38</td>
<td>1.34</td>
<td>.055</td>
<td>-.03</td>
<td>.09</td>
<td>-.02</td>
<td>-</td>
<td></td>
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<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7 TSS EO Competitive Aggressiveness</td>
<td>3.53</td>
<td>1.27</td>
<td>.053</td>
<td>-.17**</td>
<td>-.15*</td>
<td>.07</td>
<td>-.05</td>
<td>-.12**</td>
<td>-</td>
<td></td>
<td></td>
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</tr>
<tr>
<td><strong>Environment</strong></td>
<td></td>
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<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>8 TSS Env Instability</td>
<td>5.11</td>
<td>1.09</td>
<td>-.23**</td>
<td>.23**</td>
<td>.36**</td>
<td>-.10</td>
<td>.19**</td>
<td>-.03</td>
<td>-.11</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9 TSS Env Complexity</td>
<td>4.32</td>
<td>1.03</td>
<td>.03</td>
<td>.10</td>
<td>.14*</td>
<td>.15*</td>
<td>.06</td>
<td>.14*</td>
<td>-.18**</td>
<td>.19**</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10 TSS Env Munificence</td>
<td>5.54</td>
<td>.95</td>
<td>-.28**</td>
<td>.34**</td>
<td>.28**</td>
<td>-.13*</td>
<td>.10</td>
<td>-.00</td>
<td>-.18**</td>
<td>.50**</td>
<td>.29**</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11 TSS Environment (Overall)</td>
<td>5.24</td>
<td>.84</td>
<td>-.25**</td>
<td>.32**</td>
<td>.36**</td>
<td>-.08</td>
<td>.15*</td>
<td>.04</td>
<td>-.18**</td>
<td>.80**</td>
<td>.53**</td>
<td>.65**</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Performance</strong></td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>12 TSS Financial Performance</td>
<td>3.97</td>
<td>.66</td>
<td>-.10</td>
<td>.15</td>
<td>.04</td>
<td>.08</td>
<td>.12*</td>
<td>-.00</td>
<td>-.06</td>
<td>.28**</td>
<td>.05</td>
<td>.24**</td>
<td>.29**</td>
<td>-</td>
<td></td>
<td></td>
</tr>
<tr>
<td>13 TSS Non-Financial Performance</td>
<td>4.15</td>
<td>.59</td>
<td>-.12</td>
<td>.13*</td>
<td>-.01</td>
<td>-.02</td>
<td>.10</td>
<td>.13*</td>
<td>-.02</td>
<td>.16**</td>
<td>.07</td>
<td>.23**</td>
<td>.29**</td>
<td>.47**</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>14 TSS Performance (Overall)</td>
<td>4.07</td>
<td>.52</td>
<td>-.15*</td>
<td>.19**</td>
<td>.01</td>
<td>.00</td>
<td>.10</td>
<td>.07</td>
<td>-.07</td>
<td>.25**</td>
<td>.08</td>
<td>.29**</td>
<td>.30**</td>
<td>.87**</td>
<td>.85**</td>
<td>-</td>
</tr>
</tbody>
</table>

* Correlation is significant at the .05 level (2-tailed)
** Correlation is significant at the .01 level (2-tailed)
From Table 21, it can be seen that the respondents had a higher mean value for the emergent SDMP as opposed to the deliberate SDMP. This indicated that a more emergent SDMP was prevalent amongst the respondents’ organisations. However, both types of SDMPs (deliberate and emergent) had above average mean values (3.5) on a 7-point scale. This suggested a mixed approach to the SDMP amongst the respondents. A standard deviation of less than 1 suggests that the level of agreement among the respondents on a particular question is very consistent (Hair et al., 2003). Accordingly, the standard deviation of .96 and .65, for the deliberate and emergent SDMPs respectively, suggested that respondents were generally consistent in their opinions on their organisations’ SDMPs.

In relation to the EO, the mean values for innovativeness and proactiveness was higher than the average mean values (3.5) on their respective 7-point scales. Similarly, competitive aggressiveness was higher, albeit marginally, than the above-average value. This indicated that the respondents’ organisations displayed higher levels of innovativeness, proactiveness and competitive aggressiveness in terms of their EO. In comparison, below average mean values were obtained for the dimensions of autonomy and risk-taking. This suggested that the respondents took low risks and practiced little autonomy within their organisations. Although the mean values of the respective dimensions postulated the agreement of most respondents about their organisations’ EO, the level of their agreement was highly dispersed. The standard deviation values on all five dimensions were high (above 1), indicating that the respondents were inconsistent in their opinions on the aforementioned variables.

In this study, the environment and performance constructs were measured as unidimensional constructs. Measures of central tendency and dispersion for environment and performance were therefore provided for these two constructs. In addition, the measures of central tendency and dispersion were also provided for the respective dimensions of the environment and performance to gain a better understanding of the data. For the environment, all three dimensions of instability, complexity and munificence reported above average mean values (3.5) on a 7-point scale. The respondents thus indicated that the overall environment was volatile given the high mean score (5.24) and low standard deviation (.84). Similarly, the respondents indicated that performance within their respective organisations was good with a high mean value of 4.07 on a 5-point scale. The high mean values were reflected on both the financial and non-financial measures. The standard deviation was also low (.52) for performance, which represented the consistency of the respondents’ opinions on the questions pertaining to performance.
6.8 Assessing the Measurement Models
PLS-SEM was the main statistical technique employed in this study. Hair et al. (2016) stated that general model assessment should always initially focus on both the reflective and formative measurement models. More specifically, the estimates provided from the analysis allow for the evaluation of the reliability and validity of the construct measures within both reflective and formative models.

Assessment began with understanding the reliability and validity of the reflective measurement models. Assessment of the reflective measurement model consisted of evaluating internal consistency reliability, convergent validity and discriminant validity. However, the internal consistency perspective that underlies reflective models cannot be applied to formative models as they do not covary (Hair et al., 2016). As such, collinearity, convergent validity and indicator significance were the criteria used to assess the formative model. Tests on the aforementioned criteria were conducted on the SMARTPLS 3 program. The results are discussed next.

6.8.1 Assessment of the Reflective Measurement Model
As discussed in Section 5.6.5, causality is from the construct to its measures in the reflective measurement model. In this study, the relationship between the Performance construct and its reflective indicators formed the entire reflective measurement model. As mentioned above, the first criteria used to assess the model was the internal consistency reliability. Traditionally, Cronbach’s alpha provides an estimate based on the intercorrelations of the observed indicator variables. A construct is deemed to be reliable if it attains a Cronbach’s alpha of between .60 and .90 (Hair et al., 2016). The Cronbach alpha achieved for the Performance construct in the reflective measurement model was .789. Internal consistency reliability was therefore achieved.

Cronbach’s alpha assumes that all indicators are equally reliable. However, PLS-SEM does not. Instead, PLS-SEM prioritises the indicators according to their individual reliability. As such, a more reliable measure of internal consistency – composite reliability, was further used. Hair et al. (2016) stated that composite reliability varies between 0 to 1, with higher values indicating higher levels of reliability. Composite values of .6 to .7 are acceptable in exploratory research, while in more advanced stages of research, .70 to .90 are regarded satisfactory. The composite reliability of the Performance variable in this study was .85, which was above the satisfactory band required for the exploratory nature of this research.

Convergent validity is the extent to which a measure correlates positively with other
measures of the same constructs. In this study, six indicators were reflected from the Performance construct. Hair et al. (2016) suggested that outer loadings be used to determine the validity of each measure. More specifically, the communality of each item can be determined by the square of the loading measure, as it represents how much of the variation in a measure is explained by the construct. As a rule of thumb, communality values above .5 are considered acceptable. Table 22 summarises the results of the convergent validity of the Performance construct used in this study.

Table 22: Convergent Validity of the ‘Performance’ Construct

<table>
<thead>
<tr>
<th>Measure</th>
<th>Outer Loading</th>
<th>Communality (Outer Loading²)</th>
<th>Acceptable Validity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Growth in Sales</td>
<td>.771</td>
<td>.594</td>
<td>Yes</td>
</tr>
<tr>
<td>Overall Profitability</td>
<td>.734</td>
<td>.539</td>
<td>Yes</td>
</tr>
<tr>
<td>Return on Assets</td>
<td>.729</td>
<td>.531</td>
<td>Yes</td>
</tr>
<tr>
<td>Operational Efficiency</td>
<td>.652</td>
<td>.425</td>
<td>No</td>
</tr>
<tr>
<td>Image</td>
<td>.643</td>
<td>.413</td>
<td>No</td>
</tr>
<tr>
<td>Quality of Customer Service</td>
<td>.64</td>
<td>.41</td>
<td>No</td>
</tr>
</tbody>
</table>

Hairland (1999) suggested that researchers commonly derive at weaker outer loadings in social science studies, more so when newly developed scales are used. Therefore, instead of immediately eliminating measures that have less than .70 loadings, Hair et al. (2016) suggested that these measures be deleted only if they lead to an increase in composite reliability. As a result, a second round of modeling was conducted. There was no increase in composite reliability. Additionally, it was felt that removing the three measures would severely impact the content validity of the model. Bagozzi, Yi and Philipps (1991) further stated that only indicators with very low outer loadings of less than .40 be deleted. Given that the lowest loading (Quality of Customer Service) was .640, none of the measures were deleted.

Discriminant validity was the last criteria used to assess the reflective measurement model. It measures the extent to which a construct is empirically distinct from other constructs (Hair et al. 2016). In this study, the approach used to assess discriminant validity was the Fornell-Larcker criterion. This criterion compares the square root of the average variance extracted (AVE) values with the correlation values of all other latent variables. This Fornell-Larcker criterion is based on the premise that a construct shares more variance with its indicators than with any other construct. Table 23 shows the results of this assessment.
Table 23: Discriminant Validity (Fornell-Larcker Criterion)

<table>
<thead>
<tr>
<th>Construct</th>
<th>Performance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Organisational Performance</td>
<td>.697</td>
</tr>
<tr>
<td>Autonomy</td>
<td>.159</td>
</tr>
<tr>
<td>Competitive Aggressiveness</td>
<td>-.072</td>
</tr>
<tr>
<td>Environment</td>
<td>.419</td>
</tr>
<tr>
<td>Innovativeness</td>
<td>.071</td>
</tr>
<tr>
<td>Proactiveness</td>
<td>.204</td>
</tr>
<tr>
<td>Risk-taking</td>
<td>-.013</td>
</tr>
<tr>
<td>Deliberate SDMP</td>
<td>.041</td>
</tr>
<tr>
<td>Emergent SDMP</td>
<td>.263</td>
</tr>
</tbody>
</table>

Overall, the square root of AVE for the Performance variable (.697) was higher than the correlation of this construct with all other latent variable constructs in the model. Thus the criterion showed strong evidence of the Performance construct’s discriminant validity. Table 24 below summarises the results of the reflective measurement model assessment.

Table 24: Reflective Measurement Model Summary

<table>
<thead>
<tr>
<th>Latent Variable</th>
<th>Indicators</th>
<th>Internal Consistency</th>
<th>Convergent Validity</th>
<th>Discriminant Validity</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Cronbach's Alpha</td>
<td>Composite Reliability</td>
<td>Loadings</td>
</tr>
<tr>
<td></td>
<td></td>
<td>.60 - .90</td>
<td>.60 - .90</td>
<td>&gt; .70</td>
</tr>
<tr>
<td>Performance</td>
<td>Overall Profitability</td>
<td>.734</td>
<td>.54</td>
<td>.697 &gt; correlations with all other latent constructs</td>
</tr>
<tr>
<td></td>
<td>Growth in Sales</td>
<td>.771</td>
<td>.59</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Return on Assets</td>
<td>.729</td>
<td>.53</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Operational Efficiency</td>
<td>.652</td>
<td>.43</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Quality of Customer Service</td>
<td>.640</td>
<td>.41</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Image</td>
<td>.643</td>
<td>.41</td>
<td></td>
</tr>
</tbody>
</table>

Based on the results presented in Table 24, it was evident that all model evaluation criteria had been met, thereby showing support of the measure’s reliability and validity.
6.8.2 Assessment of the Formative Measurement Model

As discussed in Section 5.6.5, causality is from the measures to the constructs in the formative measurement model. In this study, there were eight constructs that formed the formative measurement model. They were, namely, the five constructs that formed Entrepreneurial Orientation: (1) Proactiveness, (2) Innovativeness, (3) Risk-taking, (4) Autonomy and (5) Competitive Aggressiveness, the two SDMP constructs (6) Deliberate SDMP and (7) Emergent SDMP, and the (8) Environment moderator construct. In this section, collinearity is examined and the significance and relevance of the formative indicators is further assessed.

Formative indicators are not expected to have high correlations between them, unlike that of their reflective counterparts. In fact, high correlations between two or more formative indicators is usually problematic from an interpretational and methodological point-of-view (Hair et al., 2016). They are problematic in two ways. Firstly, high correlations can increase the standard errors and thus lower the ability to demonstrate that the weights are significantly different from zero. This problem is exacerbated if the sample size is small. Secondly, high correlations can also result in weights being incorrectly estimated, including signs being reversed, leading to the false reading of results. As such, collinearity of formative measures must first be assessed. This study calculated the variance inflation factor (VIF) of each indicator to determine if there was a potential collinearity issue with the formative measures. VIF is the reciprocal of tolerance – the latter representing the amount of variance of one formative indicator not explained by other indicators. Hair et al. (2011) suggested that a VIF value of five and above indicates a potential collinearity problem. Table 25 displays the VIF values of all the formative indicators.
Table 25: Collinearity of Formative Indicators (VIF Values)

<table>
<thead>
<tr>
<th>Indicator</th>
<th>VIF</th>
<th>Indicator</th>
<th>VIF</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Entrepreneurial Orientation</strong></td>
<td></td>
<td><strong>Entrepreneurial Orientation</strong></td>
<td></td>
</tr>
<tr>
<td>EOProActQ1</td>
<td>1.531</td>
<td>EOProActQ2</td>
<td>1.507</td>
</tr>
<tr>
<td>EOProActQ3</td>
<td>1.149</td>
<td>EOProActQ4</td>
<td>1.363</td>
</tr>
<tr>
<td>EOInoVQ1</td>
<td>1.192</td>
<td>RevEOInoVQ2</td>
<td>1.375</td>
</tr>
<tr>
<td>EOInoVQ3</td>
<td>1.415</td>
<td>EOInoVQ4</td>
<td>1.522</td>
</tr>
<tr>
<td>RevEOInoVQ5</td>
<td>1.408</td>
<td>EORiskQ1</td>
<td>1.145</td>
</tr>
<tr>
<td>EORiskQ2</td>
<td>1.189</td>
<td>EORiskQ3</td>
<td>1.141</td>
</tr>
<tr>
<td>EORiskQ4</td>
<td>1.097</td>
<td>RevEOAttnmyQ1</td>
<td>1.159</td>
</tr>
<tr>
<td>RevEOAttnmyQ2</td>
<td>1.16</td>
<td>RevEOAttnmyQ3</td>
<td>1.141</td>
</tr>
<tr>
<td>EOAttnmyQ4</td>
<td>1.115</td>
<td>RevEOCAQ1</td>
<td>1</td>
</tr>
<tr>
<td><strong>SDMP</strong></td>
<td></td>
<td><strong>SDMP</strong></td>
<td></td>
</tr>
<tr>
<td>SDMPDQ1</td>
<td>1.438</td>
<td>SDMPDQ2</td>
<td>1.511</td>
</tr>
<tr>
<td>SDMPDQ3</td>
<td>1.44</td>
<td>SDMPDQ4</td>
<td>1.404</td>
</tr>
<tr>
<td>SDMPDQ5</td>
<td>1.355</td>
<td>SDMPDQ6</td>
<td>1.681</td>
</tr>
<tr>
<td>SDMPDQ7</td>
<td>1.841</td>
<td>SDMPDQ8</td>
<td>1.766</td>
</tr>
<tr>
<td>SDMPEQ1</td>
<td>1.385</td>
<td>SDMPEQ2</td>
<td>1.463</td>
</tr>
<tr>
<td>SDMPEQ3</td>
<td>1.302</td>
<td>SDMPEQ4</td>
<td>1.191</td>
</tr>
<tr>
<td>SDMPEQ5</td>
<td>1.198</td>
<td>SDMPEQ6</td>
<td>1.107</td>
</tr>
<tr>
<td><strong>Environment</strong></td>
<td></td>
<td><strong>Environment</strong></td>
<td></td>
</tr>
<tr>
<td>EnvComplxQ1</td>
<td>1.212</td>
<td>EnvComplxQ2</td>
<td>2.348</td>
</tr>
<tr>
<td>EnvComplxQ3</td>
<td>2.746</td>
<td>EnvComplxQ4</td>
<td>2.560</td>
</tr>
<tr>
<td>EnvInstabQ1</td>
<td>1.658</td>
<td>EnvInstabQ2</td>
<td>2.207</td>
</tr>
<tr>
<td>EnvInstabQ3</td>
<td>2.804</td>
<td>EnvInstabQ4</td>
<td>2.687</td>
</tr>
<tr>
<td>EnvInstabQ5</td>
<td>2.464</td>
<td>RevEnvMunifeQ1</td>
<td>1.401</td>
</tr>
<tr>
<td>EnvMunifeQ2</td>
<td>1.686</td>
<td>EnvMunifeQ3</td>
<td>1.938</td>
</tr>
<tr>
<td>EnvMunifeQ4</td>
<td>1.835</td>
<td>EnvMunifeQ5</td>
<td>1.932</td>
</tr>
<tr>
<td>EnvMunifeQ6</td>
<td>2.092</td>
<td>NA</td>
<td>NA</td>
</tr>
</tbody>
</table>

From Table 25, it can be seen that EnvComplxQ3 had the highest VIF value of 2.746, which was under the critical threshold of 5. Therefore, it was concluded that collinearity did not reach critical values in any of the formative constructs in this study.

Assessing the outer weights for their significance and relevance requires the test to assess if the outer weights are significantly different from zero (Hair et al., 2016). This was achieved in this study by means of bootstrapping. As PLS-SEM does not assume that the data are normally distributed, parametric tests such as regression analyses cannot be applied. As such, bootstrapping had to be used to test the coefficients for their significance. In this procedure, a large number of samples are drawn from the original sample with replacement. This study used 5,000 bootstrap samples, as per the recommendation in Hair et al. (2016, p. 149). Additionally, traditional studies have adopted a significance level of 5% (p<.05) to deem the relationship as significant.
However, Hair et al. (2016) suggested that in exploratory studies, a significance level of as high as 10% can be used. As this study is exploratory in nature, p<.10 was deemed acceptable. All other variables were set to be exactly the same as the original PLS-SEM run. Table 26 provides a summary of the results. In this table, the outer weights of the formative indicators are shown (alongside their outer loading values), as well as t- and p-values for consideration of significance. Looking at the p-values, it can be observed that all the formative indicators were significant at a 10% level (p < .10), except for three Innovativeness indicators, namely EOInoVQ1, EOInoVQ3 and EOInoVQ4. These three formative indicators also had seemingly low outer loadings (.404, .202, .356 respectively). However, a priori research and theory provide strong support for the relevance of these indicators in explaining Entrepreneurial Orientation (Miller 1983; Lumpkin & Dess 1996). Therefore, these indicators were retained despite their outer weights not being significant.
Table 26: Significance of Formative Indicators (p Values)

<table>
<thead>
<tr>
<th>Formative Constructs</th>
<th>Formative Indicators</th>
<th>Outer Weights</th>
<th>Outer Loadings</th>
<th>t Value</th>
<th>p Value</th>
<th>Significance (p ≤ .10)?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proactiveness</td>
<td>EOProActQ1</td>
<td>.387</td>
<td>.691</td>
<td>3.298</td>
<td>.001</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>EOProActQ2</td>
<td>.069</td>
<td>.533</td>
<td>2.59</td>
<td>.01</td>
<td>Yes</td>
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<tr>
<td></td>
<td>EOProActQ3</td>
<td>.633</td>
<td>.832</td>
<td>4.939</td>
<td>0</td>
<td>Yes</td>
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<tr>
<td></td>
<td>EOProActQ4</td>
<td>.257</td>
<td>.658</td>
<td>3.884</td>
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<tr>
<td></td>
<td>EOInoVQ1</td>
<td>.258</td>
<td>.404</td>
<td>1.621</td>
<td>.105</td>
<td>No</td>
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<tr>
<td></td>
<td>RevEOInoVQ2</td>
<td>.798</td>
<td>.922</td>
<td>3.338</td>
<td>.001</td>
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<tr>
<td></td>
<td>EOInoVQ3</td>
<td>-.206</td>
<td>.202</td>
<td>.677</td>
<td>.499</td>
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<tr>
<td></td>
<td>EOInoVQ4</td>
<td>.028</td>
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<td>RevEOInoVQ5</td>
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<td>RevEOAtmyQ1</td>
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<td>Yes</td>
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<tr>
<td></td>
<td>EOAtmyQ4</td>
<td>.536</td>
<td>.732</td>
<td>6.375</td>
<td>0</td>
<td>Yes</td>
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<td></td>
<td>EORiskQ1</td>
<td>.232</td>
<td>.546</td>
<td>3.921</td>
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<td></td>
<td>EORiskQ2</td>
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<td>.811</td>
<td>6.811</td>
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<td>EORiskQ3</td>
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<td>4.539</td>
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<td>3.575</td>
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<td></td>
<td>SDMDPQ1</td>
<td>-.026</td>
<td>.462</td>
<td>2.414</td>
<td>.016</td>
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<td></td>
<td>SDMDPQ2</td>
<td>.055</td>
<td>.568</td>
<td>3.764</td>
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<tr>
<td></td>
<td>SDMDPQ3</td>
<td>.072</td>
<td>.556</td>
<td>3.488</td>
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<tr>
<td></td>
<td>SDMDPQ4</td>
<td>.117</td>
<td>.563</td>
<td>3.182</td>
<td>.001</td>
<td>Yes</td>
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<td></td>
<td>SDMDPQ5</td>
<td>.132</td>
<td>.532</td>
<td>2.938</td>
<td>.003</td>
<td>Yes</td>
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<td></td>
<td>SDMDPQ6</td>
<td>.57</td>
<td>.906</td>
<td>5.643</td>
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<tr>
<td></td>
<td>SDMDPQ7</td>
<td>.222</td>
<td>.762</td>
<td>5.117</td>
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<td></td>
<td>SDMDPQ8</td>
<td>.127</td>
<td>.699</td>
<td>4.833</td>
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<td>SDMPEQ1</td>
<td>.466</td>
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<td>7.146</td>
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<td></td>
<td>SDMPEQ2</td>
<td>-.048</td>
<td>.475</td>
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<td>SDMPEQ3</td>
<td>.111</td>
<td>.504</td>
<td>4.137</td>
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<td>SDMPEQ4</td>
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<td>.426</td>
<td>2.958</td>
<td>.003</td>
<td>Yes</td>
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<tr>
<td></td>
<td>SDMPEQ5</td>
<td>.407</td>
<td>.634</td>
<td>5.259</td>
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<td>Yes</td>
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<tr>
<td></td>
<td>SDMPEQ6</td>
<td>.485</td>
<td>.674</td>
<td>4.909</td>
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<td>Yes</td>
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<tr>
<td>Environment</td>
<td>EnvComplXQ1</td>
<td>EnvComplXQ2</td>
<td>EnvComplXQ3</td>
<td>EnvComplXQ4</td>
<td>EnvInstabQ1</td>
<td>EnvInstabQ2</td>
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<tr>
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<td>-------------</td>
<td>-------------</td>
<td>-------------</td>
<td>-------------</td>
<td>-------------</td>
<td>-------------</td>
</tr>
<tr>
<td></td>
<td>-.455</td>
<td>.029</td>
<td>-.192</td>
<td>.342</td>
<td>-.1</td>
<td>-.07</td>
</tr>
<tr>
<td></td>
<td>-.528</td>
<td>.265</td>
<td>.304</td>
<td>.428</td>
<td>.363</td>
<td>.368</td>
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<td></td>
<td>0</td>
<td>.075</td>
<td>.025</td>
<td>.001</td>
<td>.008</td>
<td>.015</td>
</tr>
<tr>
<td></td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>
In summary, both the reflective and formative measurement models were tested and proven to be sound. In total, this study assessed both models with five tests. For the reflective model, this study assessed its internal consistency reliability, convergent validity and discriminant validity. The formative model was subjected to a collinearity test and a significance test. Obtaining satisfactory results from the five assessments showed that the overall measurement model was sound. Next, this chapter evaluates the structural model.

6.9 Assessing the Structural Model

Hair et al. (2016) stated that the final step, after assessing the reliability and validity of the measurement model, was to subject the structural model to a range of measures. The structural model’s predictive capabilities and relationships between constructs were examined were therefore next examined in this study. Specifically, this study considered collinearity issues, assessing $R^2$ and its effect size ($f^2$), assessing predictive relevance $Q^2$ and its effect size ($q^2$), and finally, assessing significance and relevance of relationships. As discussed previously in Section 6.8.2, this study applied the collinearity test to the formative measures in the measurement model. The same test for VIF values and tolerance was used here. Specifically, the following sets of (predictor) constructs for collinearity: (1) Proactiveness, Innovativeness, Risk-taking, Autonomy and Competitive Aggressiveness as predictors of Deliberate SDMP and Emergent SDMP; and (2) Deliberate and Emergent SDMPs as predictors of Performance were used. As shown in Table 27, all VIF values were below the critical threshold of five. As such, the collinearity levels among the predictor constructs were not a critical issue in the structural model.

Table 27: Collinearity of Predictor Constructs in Structural Model

<table>
<thead>
<tr>
<th></th>
<th>Performance</th>
<th>SDMP - D</th>
<th>SDMP - E</th>
</tr>
</thead>
<tbody>
<tr>
<td>Autonomy</td>
<td>1.16</td>
<td>1.16</td>
<td></td>
</tr>
<tr>
<td>Competitive Aggressiveness</td>
<td>1.04</td>
<td>1.04</td>
<td></td>
</tr>
<tr>
<td>Environment</td>
<td>1.164</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Innovativeness</td>
<td>1.077</td>
<td>1.077</td>
<td></td>
</tr>
<tr>
<td>Performance</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>Proactiveness</td>
<td>1.177</td>
<td>1.177</td>
<td></td>
</tr>
<tr>
<td>Risk-taking</td>
<td>1.298</td>
<td>1.298</td>
<td></td>
</tr>
<tr>
<td>SDMP - D</td>
<td>1.066</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SDMP - E</td>
<td>1.266</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
6.9.1 Assessing the $R^2$ value and $f^2$ values of the Endogenous Constructs

Coefficient of determination (or $R^2$) is the most commonly used measure to evaluate structural models in PLS-SEM (Hair et al., 2016). It is the measure of the model's predictive power and is calculated as the squared correlation between a specific endogenous construct’s actual and predicted values (Hair et al., 2011). This measure calculates the amount of variance in the endogenous construct as explained by all the exogenous constructs linked to it. In other words, it represents a measure of in-sample predictive power (Rigdon, 2012; Starstedt et al., 2014). As shown below in Table 28, the $R^2$ value of the endogenous construct Performance is .233, while the $R^2$ values of Deliberate SDMP and Emergent SDMP are .253 and .289 respectively. While $R^2$ values range from 0 to 1, Hair et al. (2016) stated that it is “difficult to provide rules of thumb for acceptable $R^2$ values” (p. 199). This is because acceptable $R^2$ values differ across different research disciplines and are also influenced by the complexity of the models designed in PLS-SEM. For instance, in marketing and success driver studies, $R^2$ values of .75, .50 or .25 are considered as substantial, moderate or weak respectively (Henseler et al., 2009). Yet for disciplines such as consumer behavior, $R^2$ values of .20 are considered high. As this study considered the drivers for SME performance, it followed the values as set out by Henseler et al. (2009). Thus, the $R^2$ values of Performance (.233), Deliberate SDMP (.253) and Emergent SDMP (.289) were considered weak.

Table 28: $R^2$ Values of Endogenous Constructs

<table>
<thead>
<tr>
<th>Endogenous Construct</th>
<th>$R$ Square</th>
</tr>
</thead>
<tbody>
<tr>
<td>Performance</td>
<td>.233</td>
</tr>
<tr>
<td>SDMP - D</td>
<td>.253</td>
</tr>
<tr>
<td>SDMP - E</td>
<td>.289</td>
</tr>
</tbody>
</table>

Apart from assessing $R^2$ values of endogenous constructs, this study measured the effect size $f^2$, which measures the change in $R^2$ value when a specific exogenous construct is removed from the model. The impact of the change is referred to as effect size ($f^2$). Cohen (1988) stated that values of .02, .15 and .35 represent small, medium and large effects respectively. Table 29 shows the $f^2$ values for all combinations of endogenous constructs in the columns, while exogenous constructs are represented in the rows. Judging by the results, all exogenous constructs in this model had small effects on their corresponding endogenous constructs, with the exception of Environment on Performance (medium effect size, highlighted in green), and Deliberate SDMP on Performance (no effect, highlighted in red). The implications of this are discussed further in Section 8.
Table 29: Effect Size ($f^2$) for Endogenous Constructs

<table>
<thead>
<tr>
<th></th>
<th>Performance</th>
<th>SDMP - D</th>
<th>SDMP - E</th>
</tr>
</thead>
<tbody>
<tr>
<td>Autonomy</td>
<td>.079</td>
<td>.100</td>
<td></td>
</tr>
<tr>
<td>Competitive Aggressiveness</td>
<td>.029</td>
<td>.022</td>
<td></td>
</tr>
<tr>
<td>Environment</td>
<td>.181</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Innovativeness</td>
<td>.033</td>
<td>.044</td>
<td></td>
</tr>
<tr>
<td>Performance</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Proactiveness</td>
<td>.063</td>
<td>.025</td>
<td></td>
</tr>
<tr>
<td>Risk-taking</td>
<td>.029</td>
<td>.039</td>
<td></td>
</tr>
<tr>
<td>SDMP - D</td>
<td></td>
<td>.001</td>
<td></td>
</tr>
<tr>
<td>SDMP - E</td>
<td></td>
<td>.051</td>
<td></td>
</tr>
</tbody>
</table>

6.9.2 Assessing the $Q^2$ Value and $q^2$ Values of the Endogenous Constructs

While $R^2$ and $f^2$ values show in-sample predictive power, $Q^2$ and $q^2$ values measures a models out-of-sample predictive power as another criterion for a model's predictive accuracy. That is, should a PLS path model exhibit out-of-sample predictive power, it is able to accurately predict data not used in the model estimation. The Stone-Geisser’s $Q^2$ value is obtained through a procedure known as blindfolding (Geisser, 1974; Stone 1974). According to Chin (1998), Henseler et al. (2009) and Tenenhaus et al. (2005), blindfolding is a sample reuse technique that removes every $d^{th}$ data point in the endogenous constructs indicators and estimates the parameters with the remaining data. Hair et al. (2016) also suggested that when deciding on the $d^{th}$ data point (or omission distance D) to be removed, researchers select a D value that does not result in an integer when it is divided from the number of observations. For example, if there are 70 observations in the study, D must not be 7 or 10, as 70/7 = 10 (an integer) and 70/10 = 7 (an integer). As this study had 278 observations, an omission distance of 7 was a sound option (278/7 = 39.7, and 39.7 is not an integer). Chin (1998) further stated that as long as the $Q^2$ value is above zero, then the model has predictive power with regards to that particular endogenous construct. The results of this test are shown in Table 30. As all three endogenous constructs had $Q^2$ values above zero, it can be summarised from the results that these endogenous constructs had some level of out-of-sample predictive power.
Much like the effect size ($f^2$) approach to assessing $R^2$, the relative impact of predictive relevance of $Q^2$ can be assessed by deriving its $q^2$ effect size. Similarly, values of .02, .15, and .35 indicate that an exogenous construct has small, medium and large predictive relevance respectively. As SMARTPLS 3 does not have the ability to determine $q^2$, the results were calculated manually through eight model re-estimations. Table 31 shows the $q^2$ values of the endogenous constructs. It is worth noting that only five relationships obtained a large enough $q^2$ value that indicated a small predictive relevance within an exogenous-endogenous construct relationship, while the rest had $q^2$ values of <.02, indicating that these exogenous constructs had no contribution to their relative endogenous constructs' $Q^2$.

### Table 31: $q^2$ Values of Endogenous Constructs

<table>
<thead>
<tr>
<th>Constructs</th>
<th>Performance</th>
<th>SDMP D</th>
<th>SDMP E</th>
</tr>
</thead>
<tbody>
<tr>
<td>Autonomy</td>
<td>.026</td>
<td>.022</td>
<td></td>
</tr>
<tr>
<td>Proactiveness</td>
<td>.024</td>
<td>.007</td>
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</tr>
<tr>
<td>Innovativeness</td>
<td>.000</td>
<td>.011</td>
<td></td>
</tr>
<tr>
<td>Risk-taking</td>
<td>.011</td>
<td>.014</td>
<td></td>
</tr>
<tr>
<td>Competitive Aggressiveness</td>
<td>.009</td>
<td>.004</td>
<td></td>
</tr>
<tr>
<td>Environment</td>
<td>.067</td>
<td></td>
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<tr>
<td>SDMP-D</td>
<td>.003</td>
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</tr>
<tr>
<td>SDMP-E</td>
<td>.022</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**6.9.3 Assessing the Path Coefficients and Significance**

Understanding the structural model’s path coefficients and their significance shed the most light into the answering of this study’s research aims. Specifically, path coefficients represented the hypothesised relationships among the constructs (Hair et al., 2016). These coefficients range from -1 to 1, with coefficients closer to 1 representing strong positive relationships, and -1 representing strong negative relationships. As a rule of thumb, Hair et al. (2016) stated that coefficients above .20...
are statistically significant, while those that are less than .10 are usually not. For path coefficients that lie between .10 and .20, the model has to be subjected to a bootstrapping procedure. Not unlike the bootstrapping procedure adopted in Section 6.8.2 used to test for significance in the outer weights, the bootstrap standard error enables computing t- and p-values for all the path coefficients. Studying these t- and p-values enabled this study to determine if the relationships were statistically significant.

Table 32 summarises if each path coefficient within the PLS-SEM model is significant. As seen in Table 32, 11 out of 14 paths had p-values of less than .10. As explained earlier in Section 6.8.2, Hair et al. (2016) suggested that a significance level of as high as 10% may be assumed in studies which are exploratory in nature. The three paths that had p-values of more than .10 were significantly above the 10% threshold (.347, .682 and .414), and would result in rejecting their corresponding hypotheses. Consequently, it can be concluded that the other 11 hypotheses could be considered for acceptance. The implications of this are further discussed in Section 8.
Table 32: Path Coefficients and Significance Levels

<table>
<thead>
<tr>
<th>Hypothesis</th>
<th>Path from</th>
<th>To</th>
<th>Main model coefficients ($p$)</th>
<th>Indirect effects ($p$)</th>
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</thead>
<tbody>
<tr>
<td>H1a</td>
<td>Innovativeness</td>
<td>Deliberate SDMP</td>
<td>-0.163 (0.347)</td>
<td></td>
</tr>
<tr>
<td>H1b</td>
<td>Innovativeness</td>
<td>Emergent SDMP</td>
<td>0.151 (0.045)*</td>
<td></td>
</tr>
<tr>
<td>H2a</td>
<td>Risk-taking</td>
<td>Deliberate SDMP</td>
<td>0.168 (0.051)*</td>
<td></td>
</tr>
<tr>
<td>H2b</td>
<td>Risk-taking</td>
<td>Emergent SDMP</td>
<td>0.189 (0.022)*</td>
<td></td>
</tr>
<tr>
<td>H3a</td>
<td>Proactiveness</td>
<td>Deliberate SDMP</td>
<td>0.236 (0.007)*</td>
<td></td>
</tr>
<tr>
<td>H3b</td>
<td>Proactiveness</td>
<td>Emergent SDMP</td>
<td>0.144 (0.041)*</td>
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</tr>
<tr>
<td>H4a</td>
<td>Autonomy</td>
<td>Deliberate SDMP</td>
<td>0.262 (0.07)*</td>
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</tr>
<tr>
<td>H4b</td>
<td>Autonomy</td>
<td>Emergent SDMP</td>
<td>0.287 (0.001)*</td>
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<tr>
<td>H5a</td>
<td>Competitive Aggressiveness</td>
<td>Deliberate SDMP</td>
<td>0.151 (0.053)*</td>
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</tr>
<tr>
<td>H5b</td>
<td>Competitive Aggressiveness</td>
<td>Emergent SDMP</td>
<td>-0.128 (0.018)*</td>
<td></td>
</tr>
<tr>
<td>H6a</td>
<td>Deliberate SDMP</td>
<td>Performance</td>
<td>0.027 (0.682)</td>
<td></td>
</tr>
<tr>
<td>H6b</td>
<td>Emergent SDMP</td>
<td>Performance</td>
<td>0.222 (0.005)*</td>
<td></td>
</tr>
<tr>
<td>H7a</td>
<td>Deliberate SDMP</td>
<td>Performance (Environment moderator)</td>
<td>0.061</td>
<td></td>
</tr>
<tr>
<td>H7b</td>
<td>Emergent SDMP</td>
<td>Performance (Environment moderator)</td>
<td>0.142</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Innovativeness</td>
<td>Performance</td>
<td>0.036 (0.150)</td>
<td>153 (0.046) (0.033)*</td>
</tr>
<tr>
<td></td>
<td>Risk-taking</td>
<td>Performance</td>
<td>0.038 (0.118)</td>
<td>0.071 (0.019)*</td>
</tr>
<tr>
<td></td>
<td>Proactiveness</td>
<td>Performance</td>
<td>0.071 (0.019)*</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Autonomy</td>
<td>Performance</td>
<td>-0.024 (0.203)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Competitive Aggressiveness</td>
<td>Performance</td>
<td>-0.024 (0.203)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>R² (Deliberate SDMP)</td>
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<td>0.253</td>
<td></td>
</tr>
<tr>
<td></td>
<td>R² (Emergent SDMP)</td>
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<td>0.289</td>
<td></td>
</tr>
<tr>
<td></td>
<td>R² (Performance)</td>
<td></td>
<td>0.233</td>
<td></td>
</tr>
</tbody>
</table>

*p<0.1, where values of t were calculated through bootstrapping 5000 samples and 238 cases per sample.

In summary, this section described the results of the assessment of the overall PLS-SEM model. Specifically, through internal reliability, convergent validity and discriminant validity tests, it was concluded that the reflective measurement model was both reliable and valid. Next, the formative measurement model was subject to collinearity and weight significant tests. Collinearity of all formative measures were below the threshold of five, and while three formative indicators were found to be not significant, they were eventually retained due to reasons pertaining to content validity. With the measurement model determined to be largely sound, the section then
assessed the structural model through collinearity tests, assessing $R^2$ and its effect size ($f^2$), and assessing predictive relevance $Q^2$ and its effect size ($q^2$), and finally, assessing significance and relevance of relationships.

The integrity of the structural model produced mixed results. While the collinearity levels were below the threshold of five, it was found that the endogenous constructs had weak $R^2$ values, with most of the $f^2$ effect sizes found to be only small. Similarly, while $Q^2$ values were above zero, only five out of 13 relationships had large enough $q^2$ effect sizes. Finally, through observing the path coefficients and their corresponding significance levels, it was found that 11 out of the 14 paths were statistically significant. From Table 32 above, the path between SDMP – E x Env → Performance was reported to be significant. This path represents one of the moderating effects of Environment on the Emergent SDMP-Organisational Performance relationship examined in this study. The following section will discuss the moderator construct and its effects on the PLS-SEM model.

6.10 The Moderator Effect

Moderation occurs when the relationship between two constructs is not constant and depends on values of a third moderating variable (Hair et al., 2016). The moderator can alter both the strength and direction of the relationship. As reviewed in Section 3.5, a priori research has shown that the environment can have an impact on an organisation’s performance indirectly (Porter, 1980). In this study, it is posited that Environmental Uncertainty has a negative moderating effect on the Deliberate SDMP-Organisational Performance relationship, while also having a positive moderating effect on the Emergent SDMP-Organisational Performance relationship. To design these moderating effects into the PLS-SEM model, two interaction terms were designed – namely SDMP-D x Env and SDMP-E x Env (see Tables 13 and 31 respectively). Chin et al. (2003) explained that the two-stage approach must be used to operationalise the interaction term if either the exogenous construct and/or the moderator is formatively measured. In this study, both exogenous constructs (SDMP-D and SDMP-E) and Environment were formatively measured. As such, when calculating the moderating effect in the SMARTPLS 3 program, the “two-stage approach” option was selected.

6.10.1 Assessing the Moderator Construct

Before the moderator effect is determined, the study first evaluated the moderator construct Environment. As the Environment construct is formatively measured, all formative measurement model criteria as discussed in Section 6.9 would also apply to the moderator variable. In particular, this study considered the collinearity of its
indicators, and the significance levels of the indicators obtained via bootstrapping. Table 33 is an extrapolation of the moderation results discussed in Section 6.9. From this table, it is clear that the indicators had acceptable levels of collinearity and were significant for p-values <.10. As such, it was deemed safe to proceed to assess the moderating effect of this variable on the relationships within the model.

Table 33: Moderator Indicator Collinearity and Significance Levels

<table>
<thead>
<tr>
<th>Indicator</th>
<th>VIF</th>
<th>VIF &lt; 5?</th>
<th>p Value</th>
<th>Sig. (p &lt; .10)?</th>
</tr>
</thead>
<tbody>
<tr>
<td>EnvComplxQ1</td>
<td>1.212</td>
<td>Yes</td>
<td>0</td>
<td>Yes</td>
</tr>
<tr>
<td>EnvComplxQ2</td>
<td>2.348</td>
<td>Yes</td>
<td>.075</td>
<td>Yes</td>
</tr>
<tr>
<td>EnvComplxQ3</td>
<td>2.746</td>
<td>Yes</td>
<td>.025</td>
<td>Yes</td>
</tr>
<tr>
<td>EnvComplxQ4</td>
<td>2.56</td>
<td>Yes</td>
<td>.001</td>
<td>Yes</td>
</tr>
<tr>
<td>EnvInstabQ1</td>
<td>1.658</td>
<td>Yes</td>
<td>.008</td>
<td>Yes</td>
</tr>
<tr>
<td>EnvInstabQ2</td>
<td>2.207</td>
<td>Yes</td>
<td>.015</td>
<td>Yes</td>
</tr>
<tr>
<td>EnvInstabQ3</td>
<td>2.804</td>
<td>Yes</td>
<td>0</td>
<td>Yes</td>
</tr>
<tr>
<td>EnvInstabQ4</td>
<td>2.687</td>
<td>Yes</td>
<td>.001</td>
<td>Yes</td>
</tr>
<tr>
<td>EnvInstabQ5</td>
<td>2.464</td>
<td>Yes</td>
<td>0</td>
<td>Yes</td>
</tr>
<tr>
<td>RevEnvMunifeQ1</td>
<td>1.401</td>
<td>Yes</td>
<td>.019</td>
<td>Yes</td>
</tr>
<tr>
<td>EnvMunifeQ2</td>
<td>1.686</td>
<td>Yes</td>
<td>0</td>
<td>Yes</td>
</tr>
<tr>
<td>EnvMunifeQ3</td>
<td>1.938</td>
<td>Yes</td>
<td>.036</td>
<td>Yes</td>
</tr>
<tr>
<td>EnvMunifeQ4</td>
<td>1.835</td>
<td>Yes</td>
<td>0</td>
<td>Yes</td>
</tr>
<tr>
<td>EnvMunifeQ5</td>
<td>1.932</td>
<td>Yes</td>
<td>0</td>
<td>Yes</td>
</tr>
<tr>
<td>EnvMunifeQ6</td>
<td>2.092</td>
<td>Yes</td>
<td>0</td>
<td>Yes</td>
</tr>
</tbody>
</table>

6.10.2 Assessing the Effects of the Moderator Construct

Assessing the effects of the moderator construct is simply assessing the size of the interaction terms. In this study, the size of SDMP-D x Env was .061, indicating a weak positive relationship, while the simple effect of SDMP-D on Performance was .027. Therefore, jointly these results suggested that the relationship between Deliberate SDMP and Organisational Performance was .027 for an average level of Environmental uncertainty.

Consequently, when the study raised the level of Environmental uncertainty (i.e. Environment was increased by one standard deviation unit), the relationship between Deliberate SDMP and Organisational Performance was increased by the size of the interaction term (i.e. .027 + .061 = .088). On the contrary, lowering the level of the moderator variable by one standard deviation unit will cause the relationship to be decreased by the size of the interaction term (i.e. .027 – .061 = -.034), which
interestingly causes the relationship to change direction. Figure 6 below shows the simple slope plot of this moderation effect. In this graph, the x-axis represents the exogenous SDMP-D construct, while the y-axis represents the endogenous Performance construct. The middle line represents the relationship for an average level of moderator variable Environment. The lines above and below represent the relationship for a level of one standard deviation unit higher and lower respectively. From the graph, two interpretations can be observed. Firstly, as the moderator gets stronger, the slope becomes steeper, indicating a stronger SDMP-D – Performance relationship. Secondly, a single standard deviation unit lower results in the SDMP-D – Performance relationship to turn from positive to negative. The implications of this will be further explored in Section 8.

Figure 6: Environment on Deliberate SDMP and Performance

![SDMP-D x Env](attachment:figure6.png)

The size of the second interaction term SDMP-E x Env was .142, and was larger than the first interaction term. This indicated that the Environment moderator variable had a much larger effect on the Emergent SDMP – Performance relationship than on the Deliberate SDMP – Performance relationship. Figure 7 below shows the simple slope plot of this moderation effect. As previously described, the three lines indicate varying levels of the moderator variable. It can be observed that at higher levels of Environment, the slope becomes steeper, indicating a strong positive moderation effect.
Finally, Hair et al. (2016) also suggested that the $f^2$ values be used to corroborate with these findings. The $f^2$ values of the two above interaction terms are .004 and .029 respectively, which are, by traditional standards as purported in Cohen (1988), representative of a none and small effect size respectively. However, recent studies by Aguinis et al. (2005) have shown that the average effect sizes in tests of moderation is only .009. Consequently, Kenny (2016) proposed that .005, .01 and .025 is a more accurate standard for small, medium and large effect sizes respectively. In this case, while the $f^2$ value for the SDMP-D x Env interaction term still remained as below small, the $f^2$ value for the SDMP-E x Env interaction term was now considered large. This is seemingly more coherent with the findings from the size of the interaction terms.

In summary, it was initially determined that the moderator indicators were of acceptable collinearity and significance levels. When subjected to the model, the Environment moderator produced varying results on the SDMP-Organisational Performance relationship. More specifically, the moderator had a larger effect on the Emergent SDMP-Performance relationship, than that of the Deliberate SDMP-Performance relationship. These results were summarised in the two plot graphs above. The study now continues to the next section by way of discussing the hypotheses testing of the sample.
6.11 Hypotheses Testing

This section reports the results obtained from the various tests conducted to test the respective hypotheses from Research Aims 1 to 4, as detailed previously in Section 5.6.6. In sum, total scale scores were used to test hypotheses H0a-H0b developed to address Research Aim 1. Hypotheses H1a-H6b, developed to address Research Aims 2 and 3, were tested using PLS-SEM. Finally, hypotheses H7a-H7b (Research Aim 4) were also tested using PLS-SEM. The results of each of the hypotheses tested for the respective research aims is specified in the following sections.

Research Aim 1:

To investigate how strategy happens in Singapore SMEs i.e. analyse whether the SDMP in Singapore SMEs is deliberate and/or emergent.

The hypotheses that were tested in relation to the above research aim were as follows:

H0a: The strategic decision-making process within Singapore SMEs is deliberate.
H0b: The strategic decision-making process within Singapore SMEs is emergent.

As discussed previously in Section 5.6.6, Bailey et al. (2000) had stated that the mean values on the respective SDMP scales indicate the type of SDMP employed within the organisation. As such, the higher the mean value, the stronger the use of a particular SDMP within the organisation. In this study, the mean values of both the deliberate and emergent SDMPs were higher than the average mean values on a 7-point scale (as discussed previously in Section 6.7). This, therefore, indicated the presence of a mixed approach to strategy where respondents adopted both emergent and deliberate SDMPs within their organisations. As a result, both hypotheses H0a and H0b were accepted.

Research Aim 2:

To assess whether EO determines if the SDMP within Singapore SMEs is deliberate and/or emergent.

The hypotheses that were tested in relation to the above research aim were as follows:

H1a: Innovativeness is negatively associated with a deliberate strategy in Singapore SMEs
H1b: Innovativeness is positively associated with an emergent strategy in Singapore SMEs
H2a: Risk-taking is negatively associated with a deliberate strategy in Singapore SMEs
H2b: Risk-taking is positively associated with an emergent strategy in Singapore SMEs

H3a: Proactiveness is positively associated with a deliberate strategy in Singapore SMEs

H3b: Proactiveness is positively associated with an emergent strategy in Singapore SMEs

H4a: Autonomy is negatively associated with a deliberate strategy in Singapore SMEs

H4b: Autonomy is positively associated with an emergent strategy in Singapore SMEs

H5a: Competitive aggressiveness is positively associated with a deliberate strategy in Singapore SMEs

H5b: Competitive aggressiveness is positively associated with an emergent strategy in Singapore SMEs

PLS-SEM was used to evaluate the predictive power of each relationship drawn in the model. Specifically, the aforementioned hypotheses can be accepted or rejected based on the path coefficients and significance levels as discussed in Section 6.9.3. As mentioned in Section 6.9.3, path coefficients range from -1 to 1, with path coefficients closer to 1 indicating strong positive relationships, while -1 indicating strong negative relationships. The next sections (Section 6.11.1 to Section 6.11.5) discuss the findings in relation to their hypotheses.

6.11.1 Hypotheses 1 (Innovativeness and SDMP)

Hypothesis 1a posited that Innovativeness has a negative relationship with Deliberate SDMP, while Hypothesis 1b posited that Innovativeness has a positive relationship with Emergent SDMP. The path coefficient for Innovativeness and Deliberate SDMP was - .163, indicating a negative relationship, while the path coefficient for Innovativeness and Emergent SDMP was .183, indicating a positive relationship. Additionally, the p-value for the path coefficient between Innovativeness and Deliberate SDMP was .347, indicating that the coefficient was not significant, while the p-value for the path coefficient between Innovativeness and Emergent SDMP was .045, indicating that the coefficient was significant. Therefore, the PLS-SEM model showed that while Hypothesis 1b was accepted, Hypothesis 1a had to be rejected, due to an insignificant coefficient. Table 34 summarises these findings.
Table 34: Findings of Hypotheses 1a and 1b

<table>
<thead>
<tr>
<th>Path</th>
<th>Hypothesis</th>
<th>Coefficient</th>
<th>P-Values</th>
<th>Sig. (p &lt; .10)?</th>
<th>Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Innovativeness -&gt; SDMP – D</td>
<td>Negative Relationship</td>
<td>-.163</td>
<td>.347</td>
<td>No</td>
<td>Rejected</td>
</tr>
<tr>
<td>Innovativeness -&gt; SDMP - E</td>
<td>Positive Relationship</td>
<td>.183</td>
<td>.045</td>
<td>Yes</td>
<td>Accepted</td>
</tr>
</tbody>
</table>

6.11.2 Hypotheses 2 (Risk-taking and SDMP)

Hypothesis 2a posited that Risk-taking has a negative relationship with Deliberate SDMP, while Hypothesis 2b posited that Risk-taking has a positive relationship with Emergent SDMP. The path coefficient for Risk-taking and Deliberate SDMP was .168, indicating a positive relationship, while the path coefficient for Risk-taking and Emergent SDMP was .189, also indicating a positive relationship. Additionally, the p-value for the path coefficient between Risk-taking and Deliberate SDMP was .051, indicating that the coefficient was significant, while the p-value for the path coefficient between Risk-taking and Emergent SDMP was .022, indicating that the coefficient was also significant. Table 35 summarises these findings.

Table 35: Findings of Hypotheses 2a and 2b

<table>
<thead>
<tr>
<th>Path</th>
<th>Hypothesis</th>
<th>Coefficient</th>
<th>P-Values</th>
<th>Sig. (p &lt; .10)?</th>
<th>Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Risk-taking -&gt; SDMP - D</td>
<td>Negative Relationship</td>
<td>0.168</td>
<td>0.051</td>
<td>Yes</td>
<td>Rejected</td>
</tr>
<tr>
<td>Risk-taking -&gt; SDMP - E</td>
<td>Positive Relationship</td>
<td>0.189</td>
<td>0.022</td>
<td>Yes</td>
<td>Accepted</td>
</tr>
</tbody>
</table>

Therefore, it can be concluded that while Hypothesis 2b was accepted, Hypothesis 2a was rejected.

6.11.3 Hypotheses 3 (Proactiveness and SDMP)

Hypothesis 3a posited that Proactiveness has a positive relationship with Deliberate SDMP, while Hypothesis 3b posited that Proactiveness also has a positive relationship with Emergent SDMP. The path coefficient for Proactiveness and Deliberate SDMP was -.236, indicating a positive relationship, while the path coefficient for Proactiveness and Emergent SDMP was .144, also indicating a positive relationship. Additionally, the p-value for the path coefficient between Proactiveness and Deliberate SDMP was .007, indicating that the coefficient was significant, while the p-value for the path coefficient
between Proactiveness and Emergent SDMP was .041, also indicating that the coefficient was significant. Table 36 summarises these findings.

**Table 36: Findings of Hypotheses 3a and 3b**

<table>
<thead>
<tr>
<th>Path</th>
<th>Hypothesis</th>
<th>Coefficient</th>
<th>P-Values</th>
<th>Sig. (p &lt; .10)?</th>
<th>Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proactiveness -&gt; SDMP - D</td>
<td>Positive Relationship</td>
<td>0.236</td>
<td>0.007</td>
<td>Yes</td>
<td>Accepted</td>
</tr>
<tr>
<td>Proactiveness -&gt; SDMP - E</td>
<td>Positive Relationship</td>
<td>0.144</td>
<td>0.041</td>
<td>Yes</td>
<td>Accepted</td>
</tr>
</tbody>
</table>

Therefore, the PLS-SEM model concluded that both hypotheses be accepted.

**6.11.4 Hypotheses 4 (Autonomy and SDMP)**

Hypothesis 4a posited that Autonomy has a negative relationship with Deliberate SDMP, while Hypothesis 4b posits that Autonomy has a positive relationship with Emergent SDMP. The path coefficient for Autonomy and Deliberate SDMP was .262, indicating a positive relationship. In fact, this path coefficient was the strongest of all the EO constructs to Deliberate SDMP. Additionally, the path coefficient for Autonomy and Emergent SDMP was .287, also indicating a positive relationship. This path coefficient was the strongest of all the EO constructs to the Emergent SDMP construct. Thus, the Autonomy construct had the strongest relationships with either SDMP constructs. The implication of this is further explored in Section 8. Additionally, the p-value for the path coefficient between Autonomy and Deliberate SDMP was .007, indicating that the coefficient was significant, while the p-value for the path coefficient between Autonomy and Emergent SDMP was .000, indicating that the coefficient was also significant. Table 37 summarises these findings.

**Table 37: Findings of Hypotheses 4a and 4b**

<table>
<thead>
<tr>
<th>Path</th>
<th>Hypothesis</th>
<th>Coefficient</th>
<th>P-Values</th>
<th>Sig. (p &lt; .10)?</th>
<th>Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Autonomy -&gt; SDMP - D</td>
<td>Negative Relationship</td>
<td>0.262</td>
<td>0.007</td>
<td>Yes</td>
<td>Rejected</td>
</tr>
<tr>
<td>Autonomy -&gt; SDMP - E</td>
<td>Positive Relationship</td>
<td>0.287</td>
<td>0.00</td>
<td>Yes</td>
<td>Accepted</td>
</tr>
</tbody>
</table>

Therefore, it was concluded that while Hypothesis 4b was accepted, Hypothesis 4a was rejected.
6.11.5 Hypotheses 5 (Competitive Aggressiveness and SDMP)

Hypothesis 5a posited that Competitive Aggressiveness has a positive relationship with Deliberate SDMP, while Hypothesis 5b posited that Competitive Aggressiveness also has a positive relationship with Emergent SDMP. The path coefficient for Competitive Aggressiveness and Deliberate SDMP was .151, indicating a positive relationship, while the path coefficient for Competitive Aggressiveness and Emergent SDMP was -.128, indicating a negative relationship. Additionally, the p-value for the path coefficient between Competitive Aggressiveness and Deliberate SDMP was .053, indicating that the coefficient was significant, while the p-value for the path coefficient between Competitive Aggressiveness and Emergent SDMP was .018, also indicating that the coefficient was significant. Table 38 summarises these findings.

Table 38: Findings of Hypotheses 5a and 5b

<table>
<thead>
<tr>
<th>Path</th>
<th>Hypothesis</th>
<th>Coefficient</th>
<th>P-Values</th>
<th>Sig. (p &lt; .10)?</th>
<th>Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Competitive Aggressiveness -&gt; SDMP - D</td>
<td>Positive Relationship</td>
<td>.151</td>
<td>0.053</td>
<td>Yes</td>
<td>Accepted</td>
</tr>
<tr>
<td>Competitive Aggressiveness -&gt; SDMP - E</td>
<td>Positive Relationship</td>
<td>-.128</td>
<td>0.018</td>
<td>Yes</td>
<td>Rejected</td>
</tr>
</tbody>
</table>

Therefore, it was concluded that Hypothesis 5a was accepted, while Hypothesis 5b was rejected.

In summary, this section observed the PLS-SEM results of path coefficients and their significance between the EO constructs and SDMP. Seven out of the ten hypotheses were accepted, while the remaining three were rejected. The implications of this are further explored in Section 8.

Research Aim 3:
To investigate the relationship between the SDMP of Singapore SMEs and organisational performance.

The hypotheses that were tested in relation to the above research aim were as follows:

- **H6a**: There is a negative relationship between a deliberate strategy process in SMEs and organisational performance.
- **H6b**: There is a positive relationship between an emergent strategy process in SMEs and organisational performance.
While SDMP was the endogenous construct in the above research aim, it now took the form of the exogenous construct. The latent variable Performance was then introduced as the endogenous construct. As with Research Aim 2, this section considered the path coefficients and their significance within the PLS-SEM model, and from there values were derived to determine if the aforementioned hypotheses were accepted or rejected.

### 6.11.6 Hypotheses 6 (SDMP and Organisational Performance)

Hypothesis 6a posited that Deliberate SDMP has a negative relationship with Organisational Performance, while Hypothesis 6b posited that Deliberate SDMP has a positive relationship with Organisational Performance. The path coefficient for Deliberate SDMP and Organisational Performance was .027, indicating a positive relationship. Additionally, the path coefficient for Emergent SDMP and Organisational Performance was .222, also indicating a stronger positive relationship. The implication of this is further explored in Section 8. Additionally, the p-value for the path coefficient between Deliberate SDMP and Organisational Performance was .682, indicating that the coefficient was not significant, while the p-value for the path coefficient between Emergent SDMP and Organisational Performance was .005, indicating that the coefficient was significant. Table 39 summarises these findings.

**Table 39: Findings of Hypotheses 6a and 6b**

<table>
<thead>
<tr>
<th>Path</th>
<th>Hypothesis</th>
<th>Coefficient</th>
<th>P-Values</th>
<th>Sig. (p &lt; .10)?</th>
<th>Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>SDMP – D -&gt; Org. Performance</td>
<td>Negative Relationship</td>
<td>0.027</td>
<td>0.682</td>
<td>No</td>
<td>Rejected</td>
</tr>
<tr>
<td>SDMP – E -&gt; Org. Performance</td>
<td>Positive Relationship</td>
<td>0.222</td>
<td>0.005</td>
<td>Yes</td>
<td>Accepted</td>
</tr>
</tbody>
</table>

Therefore, based on these results, it was concluded that while Hypothesis 6b was **accepted**, Hypothesis 6a was **rejected**.
Research Aim 4:

Determine how the environment has a moderating effect on the relationship between the strategy decision-making process of Singapore SMEs and organisational performance.

The hypotheses that were tested in relation to the above research aim were as follows:

H7a: Environment uncertainty has a negative moderating effect on the relationship between a deliberate strategic decision-making process within Singapore SMEs and performance.

H7b: Environmental uncertainty has a positive moderating effect on the relationship between an emergent strategic decision-making process within Singapore SMEs and performance.

As discussed in Section 6.10, before assessing the moderating effects of Environmental uncertainty on the SDMP-Organisational Performance relationship, the study had to assess the integrity of the Environment construct. Hair et al. (2016) stated that for all formatively measured constructs, a test for indicator collinearity and significance must be done. The results, as shown in Section 6.10, clearly supported the use of the Environment construct.

Table 40: Findings of Hypotheses 7a and 7b

<table>
<thead>
<tr>
<th>Environment Moderates</th>
<th>Hypothesis</th>
<th>Coefficient</th>
<th>Effect Size ($F^2$)</th>
<th>Effect Size (S, M, L)</th>
<th>Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>SDMP – D -&gt; Org. Performance</td>
<td>Negative Relationship</td>
<td>0.061</td>
<td>0.004</td>
<td>None</td>
<td>Rejected</td>
</tr>
<tr>
<td>SDMP – E -&gt; Org. Performance</td>
<td>Positive Relationship</td>
<td>0.142</td>
<td>0.029</td>
<td>Large</td>
<td>Accepted</td>
</tr>
</tbody>
</table>

Table 40, above, summarises the findings of hypotheses 7a and 7b. Hypothesis 7a posited that environment uncertainty has a negative moderating effect on the Deliberate SDMP-Organisational Performance relationship. However, the interaction term of this effect had the size of .061, which indicated a positive, albeit weak, relationship. Additionally, the $F$ effect size of this interaction term was .004, which by Kenny (2016)’s conservative measures, were still considered small. Therefore, Hypothesis 7a was rejected. Hypothesis 7b posited that Environment uncertainty has a positive moderating effect on the Emergent SDMP-Organisational Performance relationship. The interaction term of .142 showed that a strong positive effect existed. An $F$ of .029 indicates a large effect size (Kenny, 2016). Therefore, Hypothesis 7b was accepted. Figure 8 and Table 41 summarise all the findings discussed in Section 6.11 in model and table formats respectively.
Figure 8: Empirical Model of the Relationship Between Entrepreneurial Orientation, the Strategic Decision-Making Process and Organisational Performance of Singapore SMEs

*\(p<0.10\)

\(ns = \) not significant
Table 41: Summary of the Quantitative Findings

<table>
<thead>
<tr>
<th>Research Aims</th>
<th>Hypotheses</th>
<th>Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1. To assess whether EO determines if the SDMP within Singapore SMEs is deliberate and/or emergent.</strong></td>
<td>H0a: The strategic decision-making process within Singapore SMEs is deliberate.</td>
<td>Accepted</td>
</tr>
<tr>
<td></td>
<td>H0b: The strategic decision-making process within Singapore SMEs in emergent.</td>
<td>Accepted</td>
</tr>
<tr>
<td></td>
<td>H1a: Innovativeness is negatively associated with a deliberate strategy in Singapore SMEs</td>
<td>Rejected *</td>
</tr>
<tr>
<td></td>
<td>H1b: Innovativeness is positively associated with an emergent strategy in Singapore SMEs</td>
<td>Accepted</td>
</tr>
<tr>
<td></td>
<td>H2a: Risk-taking is negatively associated with a deliberate strategy in Singapore SMEs</td>
<td>Rejected *</td>
</tr>
<tr>
<td></td>
<td>H2b: Risk-taking is positively associated with an emergent strategy in Singapore SMEs</td>
<td>Accepted</td>
</tr>
<tr>
<td></td>
<td>H3a: Proactiveness is positively associated with a deliberate strategy in Singapore SMEs</td>
<td>Accepted</td>
</tr>
<tr>
<td></td>
<td>H3b: Proactiveness is positively associated with an emergent strategy in Singapore SMEs</td>
<td>Accepted</td>
</tr>
<tr>
<td></td>
<td>H4a: Autonomy is negatively associated with a deliberate strategy in Singapore SMEs</td>
<td>Rejected *</td>
</tr>
<tr>
<td></td>
<td>H4b: Autonomy is positively associated with an emergent strategy in Singapore SMEs</td>
<td>Accepted</td>
</tr>
<tr>
<td></td>
<td>H5a: Competitive aggressiveness is positively associated with a deliberate strategy in Singapore SMEs</td>
<td>Accepted</td>
</tr>
<tr>
<td></td>
<td>H5b: Competitive aggressiveness is positively associated with an emergent strategy in Singapore SMEs</td>
<td>Rejected</td>
</tr>
</tbody>
</table>
3. To investigate the relationship between the SDMP of Singapore SMEs and organisational performance.

<table>
<thead>
<tr>
<th>Hypothesis</th>
<th>Description</th>
<th>Validation</th>
</tr>
</thead>
<tbody>
<tr>
<td>H6a:</td>
<td>There is a negative relationship between a deliberate strategy process in SMEs and organisational performance.</td>
<td>Rejected</td>
</tr>
<tr>
<td>H6b:</td>
<td>There is a positive relationship between an emergent strategy process in SMEs and organisational performance.</td>
<td>Accepted</td>
</tr>
</tbody>
</table>

4. Determine how the environment has a moderating effect on the relationship between the strategy decision-making process of Singapore SMEs and organisational performance.

<table>
<thead>
<tr>
<th>Hypothesis</th>
<th>Description</th>
<th>Validation</th>
</tr>
</thead>
<tbody>
<tr>
<td>H7a:</td>
<td>Environment uncertainty has a negative moderating effect on the relationship between a deliberate strategic decision-making process within Singapore SMEs and performance.</td>
<td>Rejected</td>
</tr>
<tr>
<td>H7b:</td>
<td>Environmental uncertainty has a positive moderating effect on the relationship between an emergent strategic decision-making process within Singapore SMEs and performance.</td>
<td>Accepted</td>
</tr>
</tbody>
</table>
6.12 Summary

This chapter presented the quantitative data analysis of this study. In the initial stage, data preparation and data screening was conducted. Following this, remedies were undertaken to deal with missing data and delete responses that did not fit with the sample requirements. In all 43 cases were deleted, resulting in a final usable sample of 278. Preliminary analysis was then conducted to confirm that the data were normally distributed, that outliers did not influence the data and that the data were absent from multicollinearity. This implied that data used in this study satisfied the assumptions of multivariate statistics.

The descriptive statistics of the sample showed that the majority of the respondents’ organisations were founded in 2001, with the majority (80%) belonging to the services sector. Private limited companies constituted the largest percentage of business types at almost 67%. In relation to staff strength, 53% had between 20 to 100 employees. In relation to the personal profile of the respondents, Executive Directors, at 39%, was the most common job title. Males also represented the majority of the respondents at almost 69%, with close to 37% of the respondents falling within the 40 to 49 age group. Almost 42% of the respondents possessed a Bachelor’s degree.

PLS-SEM was the primary quantitative analysis tool adopted in this study. To that effect, it was found that eight out of the 14 hypotheses subjected to the model were accepted, while the other six were rejected. Of the six that were rejected, three were statistically insignificant, while the other three showed a reverse relationship to the ones posited. The next chapter (Chapter 7) will present the qualitative content analysis using data from semi-structured interviews.
7. Qualitative Findings

7.1 Introduction

This study employed a mixed-methods design in which data were collected in two phases: Phase One (quantitative) and follow-up Phase Two (qualitative). The results of the analysis of Phase One’s quantitative data were reported in Chapter 6. The purpose of this chapter is to present the key findings of the analysis of the data collected during the qualitative phase of this study.

The qualitative phase was conducted to gather more in-depth information from the interviewees in relation to the EO, SDMP, the impact of the environment as well as organisational performance from the viewpoint of interviewees from the Singapore SME sector. Essentially, the qualitative findings added richness to the quantitative findings and aided in addressing Research Aims 1 to 4 of this study as presented earlier in Section 1.4. It was deemed important to gather deeper insights from owners and senior management within Singapore SMEs before effective recommendations could be developed and discussed in Chapter 8. The qualitative analysis was specifically based upon the follow-up interviews with 14 interviewees from the Singapore SME sector. As discussed in Section 5.7.5, the entire dataset went through an iterative process involving multiple readings of the transcripts (Spiggle, 1994) to group the data into smaller meaningful parts or ‘nodes’ (Leech & Onwuegbuzie, 2007). These nodes were then grouped by similarity, and themes were identified and documented based on each grouping (Leech & Onwuegbuzie, 2007). These themes were then interpreted against the research model developed for this study as provided previously in Section 4.2.5.

This chapter begins with a discussion on the profile of the interviewees. Next, the findings of the interviewees are explored to see how they aligned to the respective dimensions of EO, SDMP, the environment and organisational performance, as suggested by the existing literature. This is followed by a presentation on the conclusion of this chapter where the key points discussed are summarised. Comments from some of the respondents were further included in this chapter to add richness and depth.

7.2 The Interviewees

As discussed previously in Section 5.7.4, the 14 interviewees who participated in the interviews were owners and/or senior management personnel in Singapore SMEs with job titles including sole-owners (65%), part-owners (14%), managing directors and directors (21%). Using a sequence of semi-structured questions, the interviewees were asked to
share their views on their respective organisations’ EO, SDMP, environment and organisational performance to provide a richer and more in depth overview of the strategy process amongst Singapore SMEs.

With the exception of two, all interviewees had at least a bachelor degree and 11 of the 14 interviewees were from the services sector. The majority of the interviewees had less than 20 employees. The most common age group was the 40-49 age group followed closely by the 50-59 age group. Private limited enterprises were the most represented business type with partnerships and limited liability partnerships making up the rest of the business types. Four of the interviewees had either sole or part ownership of the SMEs, while the rest held senior management positions, of which managing directors accounted for the highest proportion.

7.3 Findings: Alignment to Research Model
The qualitative phase revealed the way in which the interviewees seemingly implemented each of the constructs being investigated in this study. The key constructs explored were namely EO, SDMP, environment and organisational performance. As discussed previously in Section 5.7.5, the findings in this qualitative phase were broken down into a series of codes, and subsequently developed into themes, to help analyse the data. In addition to this, and in line with the recommendations of Attride-Stirling (2001), three broad stages were adopted in the analysis of the qualitative data.

Step One involved the development of a coding framework. Through the iterative process of reviewing the transcripts, 69 codes were derived on the basis of specific theoretical interests in relation to the key constructs of this study (EO, SDMP, environment and organisational performance). The transcripts were dissected, classified and organised according to the derived codes. In Step Two, the text segments of the 65 codes were re-read and attention was paid to the common themes that were emerging. Subsequently, the 65 codes were reduced to 23 themes. Finally in Step Three, the themes derived in the previous step were arranged into 13 groupings to develop a thematic network. These groupings were in line with the four major constructs of EO, SDMP, Environment and Performance, to ensure that the thematic network aligned with the research model developed for this study. The derivation of the themes from the developed codes is presented in Table 42. The thematic network developed for the qualitative phase of this study is presented in Figure 9 and discussed in the following sections.
## Table 42: From Codes to Themes

<table>
<thead>
<tr>
<th>Codes</th>
<th>Issues Discussed</th>
<th>Themes</th>
<th>Organising Themes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Customisation</td>
<td>Adopt products to suit specific customer requirements.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Modifications</td>
<td>Modify products to match competitor innovations.</td>
<td></td>
<td>Adaptive Product</td>
</tr>
<tr>
<td>Novelty</td>
<td>Lack of focus on creating novel products.</td>
<td>Innovation</td>
<td></td>
</tr>
<tr>
<td>Lack of R&amp;D</td>
<td>Lack of commitment to research and development activities due to resource</td>
<td></td>
<td>Innovativeness</td>
</tr>
<tr>
<td>New Knowledge</td>
<td>Seek new knowledge to improve existing service offerings.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>New Market</td>
<td>Adopt service offerings to reach out to new market segments.</td>
<td>Process</td>
<td></td>
</tr>
<tr>
<td>Faster Services</td>
<td>Improve service offerings to deliver faster to customers.</td>
<td>Innovation</td>
<td></td>
</tr>
<tr>
<td>Inventory</td>
<td>Increase inventory holdings to reduce per unit costs.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pricing</td>
<td>Seek to change processes to offer lower prices to consumers.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bold</td>
<td>Adopt high-risk strategies to grow the business.</td>
<td></td>
<td>Mixed Risk-Taking</td>
</tr>
<tr>
<td>Risk Averse</td>
<td>Adopt low-risk strategies to sustain the business.</td>
<td></td>
<td>Risk-Taking</td>
</tr>
<tr>
<td>Intuition</td>
<td>Organisational decision-making is based on intuition as opposed to analysis of</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>information.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stages of Growth</td>
<td>High risks adopted in the early stages of the business, whereby risks become</td>
<td></td>
<td>Operational Risk</td>
</tr>
<tr>
<td></td>
<td>more averse as the business develops.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Uncertainties</td>
<td>Running SMEs is fraught with lots of uncertainties, particularly a steady</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>income.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Risky Operations</td>
<td>SMEs face continued financial risks of non-payment, increased competition and</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Closure</td>
<td>changing consumer trends.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>New Business Opportunities</td>
<td>Constantly on the look out for business opportunities that can potentially be</td>
<td></td>
<td>Overseas Ventures</td>
</tr>
<tr>
<td></td>
<td>tapped into.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Overseas Expansion</td>
<td>Constantly exploring possibilities of expanding overseas, particularly in the</td>
<td></td>
<td>Proactiveness</td>
</tr>
<tr>
<td></td>
<td>region.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Resource Alternatives</td>
<td>Aware of the advantages of expanding overseas, particularly in view of the</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>availability of cheaper resources.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Market Study</td>
<td>Committed to regularly studying the market in terms of identifying opportunities</td>
<td></td>
<td>Market Analysis</td>
</tr>
<tr>
<td></td>
<td>and trends.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Secondary Data</td>
<td>Dependent on secondary information, particularly the Internet and newspapers, for</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>market analysis.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Figure 9: Thematic Network of the Qualitative Findings
7.3.1 Entrepreneurial Orientation in Singapore SMEs
The interviewees indicated the way in which they implemented each dimension of EO within their organisations: namely autonomy, innovativeness, risk-taking, proactiveness and competitive aggressiveness. The way in which the aforementioned constructs were grounded in the data collected specifically for this study is discussed in turn.

7.3.1.1 Innovativeness
The majority of the interviewees seemingly consider themselves to be innovative. Many of the interviewees indicate adopting high levels of innovativeness to be competitive and to differentiate themselves from their competitors.

I think when we talk about innovation, as small and medium companies, you've got to be innovative to survive. That's just how it is. If you are not innovative, if you are just selling, products and services like every other company out there, then what makes you different. How are you going to stand out?

Owner-Director 12

Innovativeness appears to be displayed by producing some changes, which are perceived to be new to the organisation. These changes, however, might not be new to the industry. Furthermore, innovativeness does not appear to refer to the commitment of specific staff (such as a research and development team) or financial resources to invest and develop novel products, services and technology processes. Instead, the interviewees appear to display innovation through (1) Adaptive Product Innovation and (2) Process Innovation.

Adaptive Product Innovation
Adaptive product innovation refers to the interviewees seemingly making minor changes and modifications to existing products in the market to enhance customer value. The perception of innovativeness amongst many of the interviewees thus does not appear to be related to ‘novelty’. Instead, most interviewees appear to be innovative by adapting and customising existing or novel creations of their competitors.

If you want survive in this Singapore market, you have to be innovative, but innovative in SME terms. What do you mean by innovative in SME terms? It means that you react; you change products and services to suit what your customers want. Your service offerings and your product offerings. You change these so that you are innovative in terms of offering better services to your customers.

Owner-Director 12
No, we are definitely not the first in the market. We do not focus on R&D (research and development) and such. But we react very quickly to ensure we do not lag. If our competitors develop new products, as in new in the market, we get into that and see how we can improvise. We do not have mega budgets for R&D so we do what we can.

Owner-Director 13

Many of the interviewees suggest that by being small, they are close to the market and constantly study market trends and collect consumer feedback. Through this, they appear to be able to offer precise customised products that cater to specific, and rapidly changing, consumer needs. This, seemingly, enables the interviewees to differentiate themselves from the bigger companies, which typically produce a fixed range of products. In addition, strong relationships with consumers are seemingly formed through adaptive product innovation.

We constantly have to refine our delivery of our services to the individual needs, and so, again it’s about the reactive part of our business.

Owner-Director 2

I mean, typically for stone companies like ourselves, we are traders. So for us the challenge will always be to, number one, fine tune our products so that we can differentiate ourselves from our competition.

Owner-Director 9

Process Innovation

Another way in which many of the interviewees appear to display innovativeness is through process innovation. As discussed in the previous section on adaptive product innovation, the interviewees are once again not seemingly focused on creating new products. Instead, the interviewees appear to be innovative in terms of making changes to their processes within their organisations to enhance consumer value. The common ways in which process innovation amongst the interviewees are seemingly displayed include offering faster services, offering better customer service as well as mass producing and carrying larger inventory in order to offer cheaper alternatives.

I think what’s important is to be very proactive, engage our clients. They always have business issues that I think we can always add value on.

Owner-Director 3
I think there is none in this market, at this moment, that does this on a very systematic manner and we are very fast on delivery. We always provide very quick delivery, which surprises our customers, clients in a very pleasant way.

Owner-Director 6

Some of the interviewees appear to align the reduced focus on innovation in the traditional sense of developing novel products and services to the lack of financial resources typically inherent in Singapore SMEs. It appears that the lack of financial resources apply continued pressures on long-term sustainability, resulting in many SMEs being more concerned with revenue generation as opposed to innovation in the traditional sense.

The company is run this way because it is a SME. We have to be small, flexible and so on, so it does not have the luxury of thinking about, you know, being like a trailblazer, being different, and so on. It's more like I would say, reacting to what the client wants and trying to do it better, trying to do it more cost-effectively.

Owner-Director 10

7.3.1.2 Risk-Taking
The majority of the interviewees suggest that they undertake risk as they lead their respective organisations. The risk-taking amongst the interviewees can be classified as (1) operational and (2) mixed.

Operational Risks
The majority of the interviewees indicate that taking risks and being exposed to risks is prevalent in their operations. These risks seemingly begin right from the start up of the SMEs to the everyday running of the operations. Four of the interviewees, as sole or part-owners of their respective organisations, suggest that staring up a SME in Singapore is in itself representative of a risk to the owners due to the opportunity cost of giving up the typically steady income associated with a career in an established organisation.

The contract was signed, but there were a lot of escape clauses. It is common to see such loose contracts, even when dealing with big companies. Even in publically listed companies, and we are talking about billions of dollars of paid up capital in these companies. ... As a SME, it is very difficult to pit ourselves against the big boys legally, so that is one risk.

Owner-Director 6
For example, another job that we followed very closely was the Capella Hotel in Guangzhou. It was a very, very cold lead which became very very warm over time and the contract was substantial, about 30 million (dollars). We invested a lot of resources, travelling there to visit the architect, to spend time, to build social bonds, but eventually that didn't pan out.

Owner-Director 9

It appears that the everyday running of a SME is risky due to the risk of reduced revenue generation representing direct financial losses to the owners and potential closure of the organisation. The risk of reduced revenue generation is seemingly heightened by delayed or non-payment by clients, dynamic market conditions, rising competition and rapidly changing consumer and technological trends.

Mixed Risk-Taking

The risk-taking amongst many of the interviewees appears to be mixed. On the one hand, some of the interviewees suggest that they are risk averse. This appears to be particularly the case when involving financial decisions. Given that the owners invest much of their personal finances into the SMEs, the risk taken appears to be averse as failures resulting from highly risky ventures could seemingly lead to the potential financial ruin of the owners.

Risk-taking in terms of heavy loans to explore opportunities, we wouldn’t do it. Especially operating in Singapore, the liability will be very high. You know, it would eat into your personal liability, and so we are not risk takers. The risk for our company would be very, very low.

Owner-Director 5

You have to be able to manage that risk and know when to disengage at some point from that particular cause. The other thing is to take risks which you can afford. There are always risks, you just have to take those which do not hurt the company if things go wrong.

Owner-Director 11

We do not just go on gut feel or throw caution to the wind. We must analyse first, discuss and if it makes sense, then we proceed.

Owner-Director 13

Alternatively, some interviewees suggest that they are bold risk takers. These interviewees indicate that they have to be bold to tap into emerging markets and establish themselves before the competition. The bold risk-taking of many interviewees is seemingly displayed in
them investing in new technology and equipment, purchasing and carrying large amounts of inventory to be more price competitive, traveling overseas to obtain specialised training as well as venturing into emerging markets in search of new revenue streams. Moreover, many of the aforementioned decisions appear to be made without conducting a thorough market analysis or based entirely on intuition.

_We tend to be more aggressive in wanting to grow our business, because one of our mandates, as I shared with you earlier, was to hit a certain revenue target. … So, that’s the risk._

Owner-Director 3

_We would go for it and worry about the rest later._

Owner-Director 4

_So what we do is we raise the stakes. We keep inventories, and by keeping inventories we bring down the costs. Being competitive, we pass the savings back to the customers. But the risk is high because not everything that we buy are winners. I thank god that 95% of what we have bought turned out to be winners._

Owner-Director 6

In adopting mixed risk-taking, many interviewees indicate adopting different risks at different stages of their organisational growth. Bold risks are seemingly taken during the early stages of starting up the business while the risk-taking becomes more averse as the business becomes more developed.

_It all depends on which phase of your life you're in. I mean when you're young, you're really chasing the tail, you know you're going after it and you think, your mindset is why can't I do this. And then when you're a little bit older like me, and you start to think, oh I can't lose. I can win less, but I can't lose, you know what I mean._

Owner-Director 9

_When we started out we took a lot of risks, but I think right now, I wouldn't say we are less risky, but there's less need to be. It becomes less of a risk because you have the capital to back it up, so it's less risky, or it's a smaller proportion._

Owner-Director 11
7.3.1.3 Proactiveness

The interviewees in this study demonstrated proactiveness. The proactiveness was seemingly displayed via (1) Overseas Ventures and conducting (2) Market Analysis.

**Overseas Ventures**

Many interviewees suggest that overseas expansion, particularly regional, provides significant opportunities for generating additional revenue. Many interviewees appear to be constantly monitoring and analysing overseas opportunities via exports, working with overseas suppliers, collaborating on joint projects as well as setting up operations abroad.

*Essentially we’re a Singapore company and our emphasis will be on the human resource aspect of the company so that we can translate what we do here, the standards, to newer markets. For example, India, China and the Middle East. We’ve done substantial work there as well. We’re trying to build on something that is fluid, that we can deploy all around the world.*

*Owner-Director 9*

*Tapping into Malaysia, going into Indonesia and suppliers, perhaps, from the other countries. Technology too. So of course, if not, you can't survive. When you make money, a lot of the other guys see you are making money, they want to come in and they want a piece of the pie as well. So you have to be proactive in that sense.*

*Owner-Director 12*

The key reasons behind this push towards overseas ventures appears to be the access to cheaper resources and the low cost of operations in overseas markets as well as saturated markets and rising costs in the domestic market.

**Market Analysis**

Proactiveness is seemingly displayed through many interviewees conducting frequent market analysis to identify new opportunities. A few of the interviewees appear to use intuition to analyse the market. For example, Owner-Director 9 commented, “*There is no analysis, unfortunately. It's very much down to meeting people and getting a good vibe from them.*” Many of the interviewees, however, suggested that they conduct analyses on new opportunities informally through discussions with suppliers and industry players to identify opportunities in possible joint ventures, relying on scanning secondary data from newspapers, magazines, social media and Internet sources as well as routinely conducting market research by reviewing intelligence reports to assess demand and potential market growth.
Okay, one of the key things we did is to use the Euromonitor report. We analyse, you see, and we have to do a field experiment study. We have to actually go into that country, and we stay there for one to two weeks. We do a cold canvass, perhaps visit some of the training providers (potential partners).

Owner-Director 4

We look at opportunities that are blatantly in front of us and sometimes we just have to snag ourselves and say we have to do something about it. We have a joint venture with certain companies. Some of the other companies, there are quarry owners, and we have relationships with existing associates in Asian countries.

Owner-Director 9

We analyse in terms of numbers and demand. Talk to suppliers, do a bit of market research but mostly study the competition. If we feel that there is money to be made, then yes we proceed.

Owner-Director 13

Furthermore, some of the interviewees suggest that new opportunities are constantly emerging with changing consumer dynamics such as an aging population, an increasing migrant population as well as rapidly changing consumer requirements fueled by technological and trend changes. Upon the analysis of such new markets, opportunities are seemingly seized, if they are thought to be viable.

7.3.1.4 Autonomy

From the qualitative data collected in this study, there does not appear to be high levels of autonomy in place in the majority of the interviewees’ organisations. From the interviews, autonomy can be classified as (1) a strong leader orientation and (2) staff development.

Leader Orientation

Many interviewees indicate that the role of making important decisions, particularly strategic decisions, is left to the leader of the organisation. There is, therefore, very little empowerment of the staff, who were seemingly confined to decisions relating to operational duties. There are indications that lower levels of staff quality and commitment lead to lesser autonomy within such organisations. Many of the interviewees suggest allowing staff to contribute ideas, but the final decision is always left to the leader(s) and/or senior management.
Autonomy is within their job scope, because within their job scope we respect them as skilled workers. So they do whatever style they want to do, as long as it’s safe, as long as they deliver, as long as they do the tasks, then we do a final QC (quality control) after the job is done.

Owner-Director 7

Autonomy? Well, we don’t micro manage our staff but we make the decisions. We love for them to work in teams but it is not overly encouraged.

Owner-Director 12

Ours is mostly individual as we are in manufacturing and the duties are straightforward. We encourage team discussions from time to time but that is more for the higher levels of management. Most of the work is decided for them and they pretty much follow through.

Owner-Director 13

The leader(s), seemingly, refers to be the owner(s) of the business. It appears that the significant personal investments of the owners warrant them making the key decisions given the financial implications to them personally in light of failures resulting from wrong decisions.

There is no need to go through many levels and things like that. Most of the control is with us and I like that. Makes us able to react faster than the bigger companies.

Owner-Director 1

So we decide at the end of the day. We make the decisions and employees are happy to follow. They can make a mistake and apologise, but it’s our money. It’s going to cost us. So we still like to keep a lot of the control.

Owner-Director 12

Apart from the owner(s) of the business, a high level of importance in making important decisions and determining the overall strategy of the organisation appears to fall on the senior management. Some interviewees seemingly point to a process where the directors review information collected in the organisation in relation to analysis conducted and collaborate with the owners in deciding the appropriate strategies for the organisation.
Staff Development

Although the owner(s) and senior management seemingly have a strong influence on the key decisions made within the organisations, it appears that the rest of the staff play an important role in organisational success as well. For example, most interviewees indicate placing emphasis on staff development through in-house and externally programs, particularly those that are government funded. This is seemingly done to have staff certified and develop new knowledge and skills. It appears that the development of staff is necessary to enhance productivity and staff morale as well as to keep up with changing customer expectations and technology.

Oh yes, the staff are always trained. There are many levels of training. Most of the training are OJT (on-the-job training), but some of the staff actually are sent to do external training as well. We spend quite a bit on training.

Owner-Director 10

We do offer training because it is expected of my employees. If not, they are not going to stay here. But more importantly, we offer the training because there's a benefit attached to it. Now, with better skilled employees, not only does it enhance their motivation levels, not only does it keep them within the organisation, but at the end of the day, it improves their knowledge and skills. They are able to contribute far greater to the organisation.

Owner-Director 12

7.3.1.5 Competitive Aggressiveness

Many interviewees, while highlighting the importance of growth, do not appear to suggest that they are competitively aggressive. Rather, two key categories to emerge under competitive aggressiveness are (1) opportunity-led growth and (2) sideways growth.

Opportunity-Led Growth

Most interviewees suggest that growth is determined by how organisations are able to increase revenue streams by tapping into new opportunities, as opposed to comparing performance against the competition. For example, many interviewees appear to monitor the actions of their competitors, but this is not done to outdo the competition. Instead, it is seemingly done for the purpose of providing guidance on their own actions so as to develop appropriate strategies for their operations. It appears that when making pricing decisions, marketing strategies or developing product offerings to new markets, the actions of competitors may offer ideas on how they are to proceed.
I operate from the principle that, you know there is enough business for everybody. You have your niche, I have my niche. That’s it.

Owner-Director 4

Well, we’re not out to undo the competitor. We like to think it as enough for everybody if you provide the right service. So we’re not out to undo them. We’re just there to give the client a more viable alternative and do something which they thought previously was unaffordable.

Owner-Director 11

No, we don’t have a competitive undo the posture. When we come up with better products and services, it’s not to outdo the competitors. That’s not the intention. The intention is to draw the customers towards us. That’s a very key point that you have to note.

Owner-Director 12

Much of the growth of many interviewees thus appears to be opportunity driven, and not competitor driven. For example, one of the interviewees suggested that entry into a new market was not in response to or to keep abreast of the competition. Instead, it was seemingly to tap into the opportunity of attractive Singapore government grants being available to expand into neighbouring countries. It further appears that the diversified needs of the consumers present a large enough marketplace for all entities, thus reducing the need to adopt a highly competitive posture.

Sideways Growth

Despite the importance for growth, not all of the interviewees appear to indicate a desire to grow into larger enterprises. Some interviewees indicate that they may choose to grow sideways and remain as SMEs within their current capacity as opposed to becoming larger enterprises. The key reason for this reduced desire to grow into larger organisations appears to lie in the desire to retain control over the organisation as owners.

We’re not looking actively for an expansion in a very big way, nor are we contracting or you know, trying to move out to another market. We just want to adopt a policy or an objective of being stable.

Owner-Director 2
I think we’re quite comfortable with what we have now. We still consider ourselves to be quite conservative and down to earth. The sense of satisfaction lies with the direct customer feedback to us. As such, we don’t want to just grow the business and start some sort of franchising as it may bring down the standards.

Owner-Director 7

The themes discussed in this section specifically related to Research Aim 3 (Section 1.7) in exploring, at deeper length, the EO of Singapore SMEs. It appears that the interviewees, from the Singapore SME sector, display high levels of EO.

You’re forced to have that entrepreneurial mindset. Otherwise, you know, your survivability will be very much affected. You have to constantly come up with new strategies to remain viable, to survive in this industry, and you have to come up with new offerings for the clients.

Owner-Director 10

In relation to the respective constructs of EO, it appears that many of the interviewees are innovative by way of adapting innovative products and services created by bigger companies and innovating the processes within their organisations to introduce offerings to better suit the needs of their customers and in tapping into new opportunities. It further appears that many of the interviewees adopt a mixture of both risk averse and bold strategies at different stages of their SME life cycle. Furthermore, the general level of autonomy amongst the interviewees is confined to operational duties with key decisions being made by the leaders of the organisation. Lastly, the interviewees were found to be driven by opportunity led growth with little emphasis on competitive aggressiveness.

7.3.2 Strategic Decision Making Process Within Singapore SMEs

The way in which the interviewees seemingly adopt the SDMP was displayed in the qualitative phase of this study. It appears that the SDMP amongst the interviewees is (1) deliberate, (2) emergent, or (3) mixed.

Deliberate Approach

Half of the 14 interviewees indicated that a strategic plan exists in some form within the organisation. It appears that strategic plans outline objectives for one to five years with the respective strategies to achieve those objectives not concretely defined. Strategic plans are seemingly not formally written, but are shared during meetings with other strategic stakeholders. The existence of such a strategic plan is seemingly representative of a
A deliberate approach to strategy. Many of the interviewees indicate that the existence of a strategic plan provides an overall sense of direction to the entire organisation.

Strategies are not written out concretely. It’s all in the head. I know my projects, I know my clients, I know where the target people are at, and that’s about it. And if I do have any changes I want to do, it’s based very much on the, you know, the thought processes I have. So any changes at all that will be done, it will just be in my brain. So that’s the strategic plan. It’s in the brain, it’s not written out anywhere.

Owner-Director 4

If you don’t have a good strategy, your performance will be affected so they cannot be disintergreated. They must go hand in hand. You cannot have a poor strategy and then expect to sail. We have to be very careful because if you put in something that is not right, you will end up not right. … A strategic plan is a road map to guide you towards the direction that you strive for. That is number one.

Owner-Director 5

We have, like I have indicated previously, a general guideline, a very good feel on which direction we’re heading.

Owner-Director 9

Further evidence of a deliberate approach to the SDMP amongst the interviewees appears evident in the manner in which some interviewees indicate adopting strategic frameworks such as having formalised departments, developing operating procedures to guide staff, performance appraisals and conducting market analysis to mitigate risks. The majority of the interviewees adopting a seemingly deliberate strategy, however, indicate that focusing on a deliberate strategy alone could be detrimental to the organisation. It appears that SMEs have to be being flexible and reactive to rapid changes to be sustainable.

We find that if we have our plans too, too laid out, you know too spelled out, too sort of cast in stone, it sort of puts a kind of a limitation or makes us less willing to alter our approach. But by staying a little trim, it has allowed us to be able to react quicker and that has ensured that we kept our performance level the same.

Owner-Director 2
Well, targets are very much standard. But then at the same time, you can’t be too deliberate or rigid in some cases. You have to react, sometimes very quickly, to technological changes.

Owner-Director 11

Emergent Approach

The majority of the interviewees indicate that the seemingly distinct advantage they have over the larger enterprises lies in their ability to be highly flexible and nimble. It appears that this flexibility and nimbleness enables them to react quickly to the constant changes in their external environment. Many interviewees suggest that the key reason for this flexibility and nimbleness is the highly emergent strategic approach that enables them to make decisions quickly and react rapidly to such changes.

I find myself having to be rather reactive because we cater very much to the needs of our clients and those needs do change sometimes, not only dramatically but rather quickly. And then, and of course, we have to react as quickly. So all those best laid plans we have, all get thrown out off the window and we find ourselves having to react on a rather ad hoc basis.

Owner-Director 2

It leans towards emergent. It has always been like that. It’s always about looking at what’s happening. Sometimes it’s more of a gut feel, you know this doesn’t feel quite right, it needs to change. It could happen at any time of the day, it could happen in any time of the week, in the middle of the night.

Owner-Director 4

Our viewpoint is that it is of no point in taking a rigid stand because at the end of the day, you’re serving market needs.

Owner-Director 10

Adopting an emergent strategic approach appears to be endorsed by many interviewees due to the rapidly changing external environment, which impacts on profitability and revenues. It appears that many interviewees undertake actions on a regular basis that ultimately deviate away from the plans previously outlined. This emergent nature of developing strategies amongst many interviewees seemingly reflects a highly reactive nature to environmental shocks. The ability to meet quickly and resolve issues rapidly is seemingly seen as a key ingredient of organisational success amongst many interviewees.
Well, we did have some plans, concrete plans at first. But then, you know, it’s a very volatile industry, so we’d have to change with technological developments.

Owner-Director 5

So we have to be very robust, and we have to change. You cannot just be stagnant all the time. That is why, you know, a strategy can be in place but it has to be reviewed from time to time to adapt to current situations. It cannot be set in stone.

Owner-Director 6

Mixed Strategic Approach

It is seemingly conclusive that there is a mixed strategy approach amongst most of the interviewees. Whilst the interviewees appear to be able to understand the importance of having deliberate strategic plans that guide long-term behaviour, it appears that there is also plenty of scope to handle the rapid changes of the external environment with the inclusion of shorter-term planning and targets that are emergent in nature.

I think deliberate will be slightly less than 50% and emergent will be slightly more than 50%. Yes, I think we’re very open and very fluid. We adapt ourselves well. This organisation has very good people and very adventurous people and a very hardworking sort of people, so we evolve constantly.

Owner-Director 9

I would say it’s a mix of both, you know, financial strategy is always deliberate because you have clear-cut goals to reach, in terms of both growth and profitability. But then, certain things like, in our case, like I said, the industry is very vulnerable to technological advances in the equipment. So we have to adopt emergent strategies in adopting technology or you know, capital acquisition.

Owner-Director 11

Some interviewees indicate that the adoption of a purely deliberate approach to strategy is more likely as SMEs grow in size. It appears that as organisations become bigger, i.e. grow from small-sized to medium-sized to large-sized enterprises, more staff would enter the organisation and therefore there is likely to be an increased need to adopt a more deliberate approach to ensure that everyone in the organisation operates in a more controlled and systemised manner. Furthermore, it appears that as companies become bigger, the top management seemingly becomes more detached from the operations of the organisation. As a result, the deliberate approach to strategy is seemingly required to
provide the management with the necessary information needed to make strategic decisions.

As we grow, become of a certain size, we probably will have to start to formalise some of the strategic planning. Because for us, we were young once as a small firm. We needed to grow and find our way around. So I think that emergent strategy probably works well for the early years.

Owner-Director 3

Once you are established, it'll be good to have a rigid strategy. From there, you'll know the strategic direction that will be coming along. Perhaps, once we have established ourselves a constant stream of revenue, then most probably we should adopt a rigid strategy.

Owner-Director 5

The themes in this section specifically related to Research Aim 2 (Section 1.7) in investigating whether the strategy process in Singapore SMEs is deliberate and/or emergent. It appears that many of the interviewees adopt a mixed approach to strategy where deliberate strategies are formulated with the core function of providing direction to the entire organisation. In addition to this, many of the SMEs appear to adopt emergent strategies to ensure that they are able to react quickly and remain flexible to the constant changes in the external environment.

7.3.3 Environment
The interviews revealed the way in which the various dimensions of the environment, namely instability, complexity and munificence, impact on the interviewees’ operations. The majority of the interviewees appear to view the environment as having a major impact on their operations and the individual dimensions of the environment are discussed next.

7.3.3.1 Instability
The majority of the interviewees appear to agree that the instability in the environment has a strong impact on their respective organisations. The instability in the environment is seemingly displayed in terms of (1) market dynamics and (2) opportunities and threats.

Market Dynamics
Many interviewees indicated several environmental factors that make market conditions highly dynamic. Some of the key environmental factors seemingly include both the local and respective economies of the countries that the SMEs deal with, outbreaks of diseases
such as SARS and Ebola, emergence of foreign businesses both in local and foreign markets, rising competition in the local market presented by other SMEs and bigger corporations as well as rapid and constant changes in technology and consumer trends.

*The industry itself. All right, so as long as our customers remain where we are – there will be a need for our services. So, the industry’s survival is paramount to our survival or as in our survival is attached to theirs. If the day comes when this industry, well not so much implodes but you know, slows to a crawl and then yes, maybe that might be when you see competitors get far more aggressive than what we are now.*

*Owner-Director 2*

*Singapore, structurally, is very safe. I’m not denying that. The government is the core of this structure but there is no denying that we’re dependent on a lot of the countries in this region and in fact the globe. Crisis hits, Ebola disease, you know---I went through the SARS period and I tell you that was bad. We are obviously in the F&B industry and we can't afford any one of these because you know when it goes down, you get hit.*

*Owner-Director 12*

Many of the interviewees indicate that changes in any of the aforementioned environmental factors pose significant impacts on their operations due to influences on demand, supply and subsequent cost of supplies, consumer demand for products and services produced by the SMEs, pricing as well as revenue generation.

**Opportunities and Threats**

Many interviewees suggest that the dynamic nature of the environment serves either as an opportunity or threat on different occasions. When identified as opportunities, it appears that strategic actions would be undertaken to tap into such opportunities so as to achieve increased growth and revenue streams. Similarly, during instances where environmental factors are identified as threats, actions are seemingly undertaken by the interviewees to counter those threats so as to mitigate negative pressures on overall organisational performance.

*We - a lot of companies in Singapore, or at least how they’ve been encouraged to grow by the government is to undertake a holding stake in something physical overseas, simply because it presents an opportunity in terms of cheap labour or cheap land and then marketed as a Singapore product.*

*Owner-Director 9*
OK, it's based on the current market. We see what is the latest trend. Since I am in the food manufacturing industry, we see what is the latest trend, what are customers looking for and so we kind of change our products according to that.

Owner-Director 14

7.3.3.2 Complexity

In this study, environmental complexity refers to both the diversity of environmental elements that SMEs have to deal with and the sophistication of knowledge and information necessary to act in such an environment. This complexity was seemingly displayed amongst the interviewees in terms of the mixed view of SME government initiatives.

Mixed View of SME Government Initiatives

Many interviewees suggest that the policies and actions of the Singapore government have a high impact on the strategic actions of the Singapore SMEs. Many of the interviewees appear to be in agreement that the Singapore government is stable and business friendly. There appears to be an acceptance amongst the interviewees that the policies of the Singapore government have, on the large part, been instrumental in the starting up, development and growth of Singapore SMEs as much of the focus has been on building a vibrant SME sector in Singapore.

The political situation is very critical. Any changes in government, might have new regulations coming in place then it wouldn't just impact us but impact the whole industry. In fact it will impact the whole country.

Owner-Director 5

Environment, like say the government, government ruling on manpower, people, business licensing and so on will definitely affect how we can react to clients. Government saying that, certain things should not be outsourced, for example, we're doing things for banks, if tomorrow because of privacy issue, data control issue, government through MAS (Monetary Authority of Singapore) says, hey you cannot, banks you cannot outsource, then it's a big threat to us.

Owner-Director 10

Key to this initiative to build a vibrant SME sector in Singapore appears to be the policies aimed at making funding readily and easily available to Singapore SMEs, providing and educating Singapore SMEs on opportunities both locally and abroad, providing subsidies, grants and initiatives to purchase and upgrade equipment and technologies as well as to train and develop staff.
Training is a very big thing and the government is very supportive in terms of this. They give us a lot of grants such as the PIC (Productivity and Incentives Credit). You could claim a lot of these stuff during the last financial crisis. They had a lot of rebates and stuff so of course with the government’s support, a lot of agencies offer these training programmes.

Owner-Director 12

The government here has been very helpful. We get tax breaks and subsidies, so all good.

Owner-Director 13

Despite the active involvement of the Singapore government in the building of a vibrant SME sector, some of the interviewees appear to express concern that the Singapore government less supportive of the smaller and less established Singapore SMEs. For example, some of the interviewees indicate that many of the initiatives and subsidies provided by the Singapore government are only accessible to the bigger and the more established of Singapore SMEs as opposed to the smaller Singapore SMEs. There also appears to the an indication by some of the interviewees that the Singapore government, has not done enough to protect local SMEs from overseas competition entering the Singapore market. In addition, some of the interviewees indicated that by venturing into a lot of the industries themselves through the creation of government linked bodies and companies, the Government is eating into the market share and providing stiff and unfair competition to the Singapore SMEs.

We have a very, very liberal policy. The government is so flexible that any foreigner can come in here pay $20 and set up a company … So that is a big threat. The other threat that we have is that the government interferes too much in this field as well.

Owner-Director 4

Criteria, you know, to get those grants - it is very difficult for these micro SMEs. But those SME’s who do obtain the grants, some of them are large enough to have their own internal resources.

Owner-Director 6

There thus appears to be a mixed view of the role of the Singapore government in the development of the local SME sector. On the one hand, there appears to be an appreciation for the SME-centered policies and grants that are aimed at assisting Singapore SMEs in their growth. In contrast, there is an indication that these SME-
centered schemes are out of reach for the typical Singapore SME and are instead more accessible to the already better performing Singapore SMEs. The presence of Singapore government linked companies in many industries seemingly present further obstacles for some of the interviewees.

7.3.3.3 Munificence
Munificence, in this study, refers to the extent to which the environment can provide the resources SMEs need to perform in such environments. This appears to be displayed amongst the interviewees in relation to a labor issues.

Labor Issues
The majority of the interviewees suggest that labor related issues represent one of the key obstacles in their growth and development. Firstly, the scarcity of labor in Singapore appears to have severely impacted on the operations of the interviewees. With the increase in demand for labor brought on by a robust economy and reduced supply of labor given the small population of the country, many of the interviewees appear to struggle to find adequate labor to fill up positions in their respective organisations, which has ultimately stifled growth.

*Key challenges, we'll say, I'll take it as, like right now for example we have problem getting people, but it's a national issue.*

*Owner-Director 9*

*Labour costs, yes, because it’s very expensive in Singapore. Right now the biggest problem that we face is labour costs.*

*Owner-Director 14*

In instances where the interviewees are able to fill positions with staff, it appears that attracting talented staff to work in Singapore SMEs is difficult as most of the talented staff are seemingly more interested in working for the bigger and more established organisations. Even when the interviewees are able to attract talented staff, it appears that such staff use the experience gained in working in such SMEs as a stepping-stone to an eventual desire to establish careers in the bigger corporations. In addition, many of the interviewees appear to suggest that increasing wage demands and a tendency to job-hop amongst employees have seemingly created a high staff turnover rate in their respective organisations.
But it is really, really very difficult to find a very good dedicated staff and for everyone to uphold the same high standards because all you need is one person to put in a job that is slip-shod and that is it, everything is up for us.

Owner-Director 2

I don't even know if half my staff are going to be with me for the next five years and it's a very competitive market here. Talent you know is very difficult to retain, a lot of these guys you know once big companies come calling, they will leave naturally and I can't stop them.

Owner-Director 12

One of the ways in which Singapore SMEs appear to have overcome this staff shortage is to seemingly use more foreign staff. However, this appears to have been affected by recent amendments to the Singapore government’s policy aimed at reducing the number of foreign staff in Singapore companies. Many of the interviewees suggest that the increased levies now charged on hiring foreign labor and government led focus on hiring Singaporeans ahead of foreigners has resulted in a general staff shortage that has fundamentally affected their operations, increased expenses and hindered growth.

The themes in this section were specifically in relation to Research Aim 4 (Section 1.7) in determining how the environment has a moderating effect on the relationship between the strategy decision-making process of Singapore SMEs and organisational performance. It appears that the interviewees are reliant on environmental factors relating to the general environment, government policies and labour issues. These environmental factors either present opportunities or threats to the interviewees, which are then either tapped or countered respectively to generate or sustain growth.

7.3.4 Performance
Organisational performance was measured using the interviewees’ subjective statements or perceptual measures. When the interviewees were asked how they measured their organisational performance, their answers varied based on performance being (1) profit-oriented and (1) customer-satisfaction oriented.

Profit Orientation
Many of the interviewees indicate that profits are one of the key determinants in measuring overall organisational performance. It appears that the use of profits to measure overall organisational performance is important amongst Singapore SMEs as it ensures the
sustainability of the business.

Sales figures that’s it, at this point it is just that. Sales, I mean income versus expenditure, that is all right now.

Owner-Director 4

At the end of the day, I think we just look at profits. Revenue has got to go up. Cost has to be kept stable or minimised, but revenue has to go up. That’s the bread and butter.

Owner-Director 12

Profitability is everything to my company. In terms of staff, we do not really have KPIs. Punctuality, attendance and productivity is of course important but apart from that, not really. Our indicator for performance has always been overall profitability.

Owner-Director 13

Many of the interviewees indicate that in the absence of attractive profits, the respective SMEs risk closure as they typically do not possess sizable financial reserves to cover expenses such as overheads incurred in the day to day running of business for an extended duration. It further appears that when interviewees make losses, closing the business represents the most likely option as the owners seemingly want to cut their losses as opposed to continued funding in the business and undertaking further risks.

I personally do it myself at the end of every month and I give it to the management for us to see how we’re running. Because we’re running a business for profit, if I don’t see it, then I have to decide whether I want to prolong, or if I want to stop.

Owner-Director 8

Customer Satisfaction

Besides the seemingly profit-oriented nature of measuring performance amongst Singapore SMEs, it further appears that many of the interviewees place a lot of emphasis on ensuring strong customer satisfaction. Customer satisfaction appears to be a key element in measuring performance as it is seemingly seen as a catalyst for repeat purchases and therefore higher revenues. Many of the interviewees appear to indicate that ensuring high customer satisfaction is paramount to organisational performance as it garners increased sales via positive word of mouth, increased numbers of repeat
purchases, more frequent purchases as well as helping to build strong customer relationships.

At the end of the day, if the customer is not satisfied then it impacts on the revenue of course. So the two go hand in hand, its together. SMEs, I think to us, customers are more important than to Multinational Corporations.

Owner-Director 12

We give customers what they want. They are king you know. If not, you are irrelevant. There are many other players from so many other places, you really have no choice.

Owner-Director 13

The way in which the interviewees appear to attain this customer satisfaction is seemingly by ensuring shorter on-time delivery of ordered products and services, specifically providing products and services that are tailored to the requirements of their customers, building strong and personal relationships with their customers by knowing the names of their customers and offering personalisd services as well as focusing on providing excellent customer service. Most of the interviewees appeared to express pride in the fact that they have not received many complaints in the previous few years of operations, which is seemingly a testimony to their focus on customer satisfaction.

We differentiate ourself in a manner whereby most competitors find it very difficult to achieve because they go through a middle man, middlemen upon middle men. ... For us, it is all quick you know. All our stocks are in the warehouse, a phone call or a e-mail, the whole thing will start moving, so that sets us apart.

Owner-Director 6

I think it’s the trust, the example is trust. Let’s say they go overseas, they leave their car, half a million dollar car to you, just leave. They let you do whatever things they asked you to do, then you have to really do and everything done nicely and make sure that when they get back, they will get what they had wanted.

Owner-Director 7

Evaluations on customer satisfaction are seemingly not done via the collection and evaluation of formal feedback from customers. Instead, it appears that many of the interviewees base higher levels of customer satisfaction on the number of repeat customers that they have. Alternatively, in instances where customers do not return, it is
seemingly deemed that they were lost due to low levels of customer satisfactions. There appears to be no mechanisms in place to collect feedback and complaints from customers. Likewise, there appears to be little attention paid on the development and use of formalised mechanisms such as Key Performance Indicators amongst the interviewees.

Yes, it’s all there. The channels are all there, you know. We sit down with a client, oh do you have this?, yes we have this. Do you really have this?, yes we really have this. OK, do you send it out?, yes every year we send it out. Do you look at it and do you have KPIs (Key Performance Indicators)? Yes we do, but frankly we don’t really. I mean this is as honest as it gets.

Owner-Director 10

This theme is partly in relation to Research Aims 3 and 4 (Section 1.7) in providing a deeper exploration as to how performance was being measured amongst the interviewees. It appears that many of the interviewees are profit-orientated and customer satisfaction-orientated in terms of measuring organisational performance.

7.4 Summary of Qualitative Analysis

With reference to Research Aim 1 (Section 1.4), the interviewees appear to have a mixed approach to strategy where both deliberate and emergent strategies are applied in tandem. While the deliberate strategy includes the development of a strategic plan to provide direction for the entire organisation, much of the focus appears to be on the emergent strategic approach. This emergent strategic approach, where SMEs are able to adapt quickly to changes in the external environment by quickly reacting to such changes, seemingly enables the interviewees to be flexible and nimble. There are further indications that the growth in size of the organisation i.e. from small-sized enterprises to medium-sized enterprises to large-sized enterprises impacts on the SDMP. It was suggested that as organisations become bigger, there is seemingly an increased use of a more deliberate strategic approach. The key reasons for this are firstly to have consistency throughout the organisation amongst the large number of staff. Next, as SMEs grow in size, there appears to be a tendency for senior management to become detached from the market, therefore requiring a more deliberate approach to ensure greater control and accountability.

In relation to Research Aim 2, it was indicated that an entrepreneurial mindset is adopted by many of the interviewees that comprise of, firstly, innovative measures to adapt novel products and services created by bigger companies to suit the specific needs and demands of the customers of Singapore SMEs. Next, risk-taking appears to be a mix of
both risk averse and bold strategies and there seemingly is a tendency to adopt bold strategies at the start-up of Singapore SMEs, and more risk averse strategies as the SME grows and establishes itself. Thirdly, there appears to be a strong leader orientation amongst the interviewees where the owners and senior management make important strategic decisions. While staff development is seen as important, there appears to be little importance placed in getting staff involved in the SDMP. Lastly, the growth orientation of the interviewees appears to be opportunity oriented, is seemingly not competitively aggressive and more sideways oriented as opposed to growing into bigger companies for fear of losing control.

In relation to Research Aim 3, performance is seemingly profit and customer oriented amongst the interviewees. The strong emphasis on profits in measuring performance appears to be due to the pressures involved in sustainability while the emphasis on customer satisfaction is seemingly due to that translating to repeat purchases and subsequent higher revenue generation.

Lastly, in relation to Research Aim 4, the interviewees appear to be reliant on environmental impacts, particularly government and labor issues. These environmental factors are seen as either opportunities or threats, which impact on the strategies of the interviewees as they seek to tap into opportunities to increase revenues and counter threats to maintain sustainability. The next chapter discusses in greater detail how the findings of both the quantitative and qualitative analysis impact on the strategy process within Singapore SMEs.
8. Discussion

8.1 Introduction

In examining the relationship between EO, the SDMP, the environment and performance within Singapore SMEs, this study applied a mixed-methods research design to gain a comprehensive understanding of the phenomena under study. The quantitative research findings presented in Chapter 6 demonstrated whether Singapore SMEs adopted a deliberate or emergent SDMP. Further demonstrated in the chapter was the influence of each of the five dimensions of EO on the SDMP within Singapore SMEs. Following this, the chapter revealed how the deliberate and emergent SDMPs influenced performance. Lastly, the chapter presented the findings on how the environment moderated the SDMP-performance relationship. The qualitative research findings, discussed in Chapter 7, subsequently provided a more in-depth understanding of how the aforementioned constructs apply within Singapore SMEs.

The objective of this chapter is to integrate the overall findings of both the quantitative and qualitative data analyses. Possible explanations for the relevant findings are included, referencing previous research where necessary. This chapter begins with a summary of the study. This is followed by a discussion of the quantitative and qualitative findings, as well as possible discussions, for each of the research aims developed for this study. The chapter then concludes with a summary of the key discussions.

8.2 Summary of the Study

This study examined the relationship between EO, SDMP, the environment and performance within Singapore SMEs. The Singapore government has identified the development of the SME sector as a key strategic initiative for the country’s future growth. SMEs, however, have been found to have a high failure rate (Franco & Haase, 2010; Lussier & Pfeifer, 2001). SMEs thus have to engage in entrepreneurial behaviors to drive organisational performance (Aloulou & Fayolle, 2005; Covin et al., 2006). A key concept of entrepreneurship is EO. This study defined EO as a multidimensional construct encompassing the five dimensions of innovativeness, risk-taking, proactiveness, autonomy and competitive aggressiveness (Lumpkin & Dess, 2001). While many of the EO studies focused on the EO-performance relationship, this study explored the EO-SDMP relationship. The focus on the SDMP in this study was warranted as many researchers have attributed the lack of emphasis on the SDMP in SMEs as a key reason behind SME failures (eg. Gibb & Scott, 1985; Verreyenne & Meyer, 2010). SDMP was defined in this study as being either deliberate or emergent. Effective SDMPs are critical for
organisational success in light of a continually changing and challenging business environment (Thornhill & Amit, 2003; Ward & Lewandowska, 2005). In view of this, the moderating role of the environment on the SDMP-performance relationship was further examined in this study. The environment was defined as comprising of instability, complexity and munificence. Performance was defined as a multi-faceted construct that included both financial and non-financial measures.

A mixed methods research design was adopted for this study. Comprising of two phases, the first phase was quantitative while the second phase was qualitative. In Phase One, data were collected from a final usable 278 SMEs using postal surveys and surveys distributed to attendees of workshops aimed at SME owner-managers. In Phase Two, 14 semi-structured interviews were conducted with the participants who had expressed an interest to be interviewed during Phase One. Overall, the model developed and tested in the quantitative phase of this study received weak support. For example, only four of the sixteen hypotheses developed for this study were supported. The qualitative phase of the study was able to offer a deeper understanding of the constructs under study. These results suggest two different issues that require discussion. The first of these is a discussion as to the possible reasons for the failure to find support for the hypotheses developed and tested. The second issue relates to why the results from this study differ from previous studies. A discussion of the findings relating to each of the research aims developed for this study follows next.

8.3 Research Aim 1:
Investigate how strategy happens in Singapore SMEs i.e. analyse whether the strategy decision-making process in Singapore SMEs is deliberate and/or emergent.

This research aim focused on how strategy happens within Singapore SMEs. Mintzberg et al. (1998) proposed the deliberate, emergent and mixed views of strategy. The deliberate and emergent strategy views were examined in this study in line with previous research (Bailey et al., 2000; Wiesner & Millett, 2012). Prior studies on the SDMP in SMEs provided contradictory results. As discussed in Section 3.4.2, some studies found the SDMP in SMEs to be deliberate (eg., Gibson & Cassar, 2002; Wiesner & Millett, 2012). Alternatively, other researchers contended that resource constraints typically found in SMEs resulted in emergent SDMPs (Aguilera-Enríquez et al., 2011; Robinson & Pearce, 1984). Two hypotheses were developed and tested in relation to this research aim, as depicted in Table 43 below.
Using a sample of 278 respondents, an exploratory factor analysis followed by a PCA encompassing Varimax rotation in this study confirmed the use of both deliberate and emergent SDMPs amongst Singapore SMEs. The mean scores for both the deliberate (3.95) and emergent (5.55) SDMPs were above average on a 7-point scale. This demonstrated that Singapore SMEs adopted a mixed SDMP where the emergent SDMP was used in combination with the deliberate SDMP. As a result, both hypotheses were accepted.

**Deliberate SDMP**

The quantitative findings relating to the use of the deliberate SDMP amongst Singapore SMEs in this study is supported by the existing literature. Mintzberg et al. (1998), for example, pointed out that the proactive nature and the strategic vision of the entrepreneurial leaders inevitably make the strategy process deliberate. Similarly, several studies have found the majority of SMEs engaging in strategic planning activities that are typical of deliberate SDMPs (Elbanna, 2007; Gunn & Williams, 2007; Stonehouse & Pemberton, 2002). The findings from the qualitative phase of this study appeared to support the quantitative findings. The majority of the interviewees seemingly adopted a deliberate SDMP by having objectives and formalised structures.

The adoption of the deliberate SDMP amongst Singapore SMEs, as suggested by the quantitative and qualitative phases of this study, could potentially be explained firstly by the high educational qualifications of the owner-directors within the sample. The majority (86%) of the respondents in this study had at least a degree qualification. Higher educational levels amongst owner-managers result in higher formalised planning in SMEs (Gibson & Cassar, 2002; Wiesner & Millett, 2012). Moreover, strategic awareness is important to the development of the strategic posture of organisations (Beaver, 2003; Beaver & Prince, 2004; Beaver & Ross, 2000; Jennings & Beaver, 1995). It could therefore be argued that the high educational levels, greater knowledge and exposure to formal practices amongst the majority of Singapore SME owner-directors may have led to the utilisation of such deliberate SDMPs.
Next, SMEs typically face high failure rates (Dun & Bradstreet, 1975; Franco & Haase, 2010; Lussier & Pfeifer, 2001). Many researchers have attributed the lack of emphasis on strategic processes in SMEs as a key reason behind such failures (Gibb & Scott, 1985; Mazzarol, 2005; Verreynne & Meyer, 2010). The use of deliberate SDMPs amongst Singapore SMEs could potentially be seen as their desire to succeed. A third possible reason for the use of deliberate SDMPs within Singapore SMEs may lie in the sampling frame used in this study. As the samples were drawn from registered attendee lists of training programmes in Singapore training institutes, the participants of this study may already have an inclination and appreciation towards formal systems and procedures within organisations to optimise performance. This was due to most training programmes being based on formal business training (Harris et al., 2000; Wiesner & Millett, 2012).

Lastly, many of the interviewees noted that the focus on a deliberate SDMP becomes more evident as organisations become bigger. It was indicated that as organisations become larger, the management becomes increasingly detached from the operations and would require the use of deliberate SDMPs to maintain control and communicate effectively with the staff. It could therefore be argued that many of the interviewees had adopted deliberate SDMPs, albeit on a small scale, that would become more formalised as the enterprise grows. Owner-Director10, who adopted an emergent SDMP in his organisation concurred, “While we have done so well, I will say that on a longer term basis, on a sustainable basis, an emergent strategy might not be all that good a strategy”. This is consistent with the existing literature. As organisations become bigger, the focus on deliberate SDMPs increases (Leitner, 2001 cited in Kraus et al., 2006; Stonehouse & Pemberton, 2002).

**Emergent SDMP**

In addition to the adoption of the deliberate SDMP, as discussed in the previous section, the majority of the respondents indicated a greater emphasis on the emergent SDMP. As previously discussed in Section 3.4.2, many studies have presented findings that supported the use of an emergent SDMP within SMEs (eg., Harris et al., 2000; Mazzarol & Reboud, 2006; Risseeuw & Masurel, 1994; Robinson & Pearce, 1984). Previous research argued that there is little focus on the establishment of formal business plans and procedures in SMEs (Beaver & Prince, 2004; Gibson & Cassar, 2002; Robinson & Pearce, 1984). Instead, the SDMPs in SMEs are often based on experience, intuition or guessing (Mazzarol & Reboud, 2006; Verreynne & Meyer, 2010; Welter, 2005). As a result, SMEs have SDMPs that are more adhoc and unstructured (Kraus et al., 2006; Mazzarol, 2005;
Verreynne & Meyer, 2010). Furthermore, fewer resources typically found in SMEs result in the reduced focus on a deliberate SDMP (Berry, 1998; Gibb & Scott, 1985).

The qualitative findings of this study indicated further support to the quantitative findings. Owner-Director14, for example, when asked about the organisation’s SDMP stated, “We don’t really sit and write out the plan, … along the way we talk and say OK, you should work on this or come out with this product”. Another interviewee (Owner-Director12) concurred, “We know that this is the direction that we want to move towards but if you are asking me if all of these is written down in a nice document and stored in a file and kept somewhere in the office then none of this actually happens”. In concurrence, Owner-Director 13 added, “Plans definitely emerge. You can forget about planning for the long term. Of course we have a general idea of where we want to be in 15-20 years time but nothing is concrete”. Owner-Director10 added, “I say yes, I don’t need a business plan, I’m a business with 45 million dollars in turnover without a business plan.”

The emphasis placed on the emergent SDMP by the interviewees could potentially be explained by the need to be flexible and nimble in a dynamic market environment. Empirical findings suggest that the SDMP of organisations is influenced by environmental factors (Gruber, 2007; Talaulicar et al., 2005). In dynamic competitive environments, organisations can achieve distinct competitive advantages by responding quickly to the environment (Hitt, Keats, & DeMarie, 1998). This involves moving away from previously outlined plans in retaliation to a change in the environment. This was evident in points expressed by many of the interviewees. In line with this, Owner-Director6 noted, “Strategy cannot be on a long term basis. It has to change with the environment”. As such, the increased used of emergent SDMPs amongst Singapore SMEs could be attributed to the rapidly changing external environment, which requires constant monitoring and adaptation by SMEs to remain relevant and successful (Bailey & Johnson, 2001; Barnes, 2002; Schwenk, 1995).

**Mixed SDMP**

The quantitative and qualitative findings of this study suggested that a mixed SDMP, comprising of both deliberate and emergent SDMPs, is adopted by Singapore SMEs. The quantitative findings of this study indicated that the deliberate SDMP was not adopted in totality amongst the Singapore SMEs. The marginally above average mean score for the deliberate SDMP indicated that it was only ‘partially’ adopted. The ‘partial’ adoption of the deliberate SDMP amongst Singapore SMEs was further supported by the findings in the
qualitative phase of this study. Many interviewees indicated that deliberate SDMPs provided an overall sense of direction to the company. Owner-Director5, noted, “A strategic plan is a road map to guide you towards the direction that you strive”. However, the ‘partial’ adoption of the deliberate SDMP was evident when the majority of the interviewees suggested that the aforementioned objectives and structures were not concretely defined or documented. For example, one of the interviewees (Owner-Director3) expressed, “We’ve actually identified certain objectives … but as to exactly how we’re gonna get there, that’s something that we think will evolve over time”. Another interviewee (Owner-Director 4) concurred when he added, “Strategies are not written out concretely, it’s all in the head”.

In addition to this deliberate SDMP, both the quantitative and qualitative phases of this study pointed to a more emergent approach adopted within Singapore SMEs. The quantitative findings of this study pointed to a ‘heavier’ use of the emergent SDMP within Singapore SMEs (based on the higher mean score). Many of the interviewees had expressed that the sole dependence on a deliberate SDMP would be detrimental to the success of the organisation. One interviewee (Owner-Director11) noted, “You can’t be too deliberate or rigid” when adopting SDMPs. In accordance, Owner-Director2 noted that when plans are “too laid out, … it puts a kind of a limitation” on the organisation. This could potentially explain why many of the interviewees only ‘partially’ adopted the deliberate SDMP. In their view, it was important for SMEs to remain flexible and nimble to the constant changes in the external environment. By adopting an emergent SDMP, Singapore SMEs would be able to react quickly to such changes to stay abreast of threats and seize opportunities. As such, many of the interviewees reiterated that the deliberate SDMP must be complemented with the flexibility of the emergent SDMP. Owner-Director5 stated, “Well, we did have some plans, concrete plans at first, but then, you know, it’s a very volatile industry, so we’d have to change with technological developments”. Likewise, Owner-Director6 added, “A strategy can be in place but it has to be reviewed from time to time to adapt to current situations. It cannot be set in stone.

An emergent approach was deemed necessary to adapt to the highly volatile and rapidly changing external environment (Adler, 2011). Many interviewees further reiterated that the competitive advantage and continued success of SMEs was highly dependent on the flexibility of SMEs in meeting changes around them. This therefore required the adoption of emergent strategies to supplement the direction set by the deliberate strategies. In balancing both deliberate and emergent strategies, the strategy process of Singapore
SMEs was consistent with the postulations of Bailey et al. (2000), Gibcus and Kemp (2003) and Mintzberg et al. (1998) who stated that the strategy process in organisations usually involves a combination of both approaches. This was seemingly exemplified in many of the interviewees. Owner-Director14, for example noted, “I would say both. Ok definitely there needs to be a lot planning no matter what. So along the way, we do make changes. So in that sense, you need both to have a good balance.” Similarly, Owner-Director5 stated in relation to the deliberate and emergent SDMPs, “Mine would be a hybrid, a combination of both”.

8.4 Research Aim 2:
Assess whether entrepreneurial orientation determines if the strategy decision-making process within Singapore SMEs is deliberate and/or emergent.

This research aim studied whether the EO of an organisation influenced the adoption of either a deliberate or emergent SDMP within Singapore SMEs. EO in this study was defined as comprising the five dimensions of (1) innovativeness, (2) risk-taking, (3) proactiveness, (4) autonomy and (5) competitive aggressiveness. It was hypothesised that each of these five dimensions would either have a positive or negative influence on the adoption of a deliberate or emergent SDMP within Singapore SMEs.

Before the relationship between EO and the SDMP of Singapore SMEs are discussed, the key findings of the adoption of EO amongst Singapore SMEs sampled in this study is firstly explored. In Section 6.9.2, the eight collinearity and significance levels of the formative indicators were examined. Out of these eight constructs, five of them represented the entrepreneurial orientation construct. Specifically, the section first considered if the formative indicators of these five constructs had acceptable levels of collinearity. Unlike reflective indicators, formative indicators should have lower correlations between them. Hair et al. (2016) suggested that formative indicators that are highly collinear can be problematic as it can result in weights being incorrectly estimated in the PLS-SEM model. The results in Section 6.9.2 showed that all the indicators had VIF values of 5, indicating that there was little overlap in each indicator in explaining their respective constructs. For example, the four indicators that explained “Proactiveness”, namely “EOProActQ1”, “EOProActQ2”, “EO ProActQ3” and “EOProActQ4” only had VIF values of 1.531, 1.507, 1.149 and 1.363 respectively. The highest VIF value amongst the EO indicators was 1.522 (“EOInoVQ4”), which was still well below the critical threshold of 5. This indicated that for the EO constructs, their indicators had collinearity that were low and of acceptable levels.
It was also important for the outer weights of these formative indicators to be examined. This study employed the bootstrapping procedure to determine if the outer weights were significantly different from zero (Hair et al., 2016). Using the SMARTPLS 3 program, 5,000 bootstrapping samples were calculated, from which, t- and p- values of each indicator were derived. Of the 18 formative indicators, three were found to be insignificant (with p-values > than .10). However, the study did not reject the three indicators for two reasons. Firstly, the questionnaire that was used in this study was adopted from a widely used 9-item EO scale developed by Covin and Slevin (1989). The scale was then further modified by Lumpkin et al. (2009), in which process aspects of innovativeness that were previously not captured were addressed. The second reason was purely out of content validity reasons, as it was felt that a two-indicator construct would not be able to fully represent the Innovativeness construct. It was therefore surprising to the researcher that three out of the five indicators were found to be not significant. This was also an extension of the fact they had very low outer weights (.404, .202, and .356) – the lowest three outer weights of all 18 formative indicators. This hinted at a potential flaw in the model and warranted further exploration and study. It could therefore be argued that although EO can be applied across various national contexts, the measure of the various dimensions of EO may not be uniform across different nations. Lastly, both the quantitative and qualitative findings of this study demonstrated that EO is not only valid in large organisations (Aloulou & Fayolle, 2005), but also to SMEs (Covin & Wales, 2012; Dess & Lumpkin, 2005). The various dimensions of EO and their impact on the SDMP within Singapore SMEs, is discussed next.

**Innovativeness**

Innovativeness serves as one of the principal strategic resources of SMEs through the development of new products, services or processes (Rubio & Aragón, 2006 cited in Alejandro, 2015). In Section 4.2.3, it was argued that Singapore SMEs displaying lower levels of innovativeness would adopt a deliberate SDMP. Alternatively, it was posited that Singapore SMEs displaying higher levels of innovativeness would adopt an emergent SDMP. The two hypotheses that were tested in relation to the innovativeness-SDMP relationship within Singapore SMEs are summarised in Table 44 below.

**Table 44: Hypotheses Tested for Research Aim 2 (Innovativeness)**

<table>
<thead>
<tr>
<th>No.</th>
<th>Hypotheses</th>
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<tbody>
<tr>
<td>H1a</td>
<td>Innovativeness is negatively associated with a deliberate strategy in Singapore SMEs</td>
</tr>
<tr>
<td>H1b</td>
<td>Innovativeness is positively associated with an emergent strategy in Singapore SMEs</td>
</tr>
</tbody>
</table>
The quantitative findings of this study established innovativeness as one of the key EO dimensions adopted by Singapore SMEs. As discussed in the previous section, innovativeness had the highest mean score (5.08 on a 7-point scale) amongst all five dimensions of EO within Singapore SMEs. This finding was supported by previous studies that found innovativeness as one of the major characteristics of entrepreneurship (Covin & Miles, 1999). The qualitative findings of this study were seemingly consistent with the quantitative findings in suggesting that innovativeness was high amongst the interviewees. For example, Owner-Director11 stated that, “Yes, I would say we are quite innovative. We have been innovative for the last 5 years, and you know, we hope to be more innovative in the future”. One of the key reasons suggested by many of the interviewees for being innovative included the need to differentiate themselves from their competitors, particularly the bigger, resource-rich companies. Furthermore, the majority of the interviewees added that innovativeness enabled businesses to offer products and services that better met the specific needs of their customers as well as adapt quicker to environmental changes. This was consistent with the existing literature (Rubio & Aragón, 2006 cited in Alejandro, 2015). Owner-Director2, for example, expressed “Every few months we would get news from our clients that they want things done in a slightly different angle. And then we work that into our services as well. So, we do”.

In line with the above discussion, the qualitative findings of this study suggested that the concept of innovativeness involved introducing any form of change to the organisation. This is in line with the definition of innovation, which is associated with the attribute of ‘newness’ (Varis & Littunen, 2010). These changes, however, might not be new to the industry and did not appear to refer to the commitment of specific resources to invest and develop novel products, services and/or processes. In accordance, one of the interviewees (Owner-Director1) added, “If you talk about innovation as coming out with new products and services, then of course not. We don’t have a department going through this process of coming up with this fantastic new products and services”. Likewise, Owner-Director9, when discussing innovativeness, shared similar sentiments in stating, “New as to the company, yes. New, as in new in the market, no”. It appeared that many of the interviewees displayed innovativeness through adaptive product innovation and (2) process innovation.

Adaptive product innovation referred to the making of minor changes and modifications to existing products in the market to enhance customer value. Owner-Director10, for example, noted, “We seek new knowledge, we seek new products, we seek new solutions,
but those new solutions, new products are actually evolution of existing strategies, existing products and existing services. We're just defining it a bit clearer, we're just fine-tuning the concept". Similarly, process innovation referred to making changes to existing processes to enhance consumer value. This seemingly included offering faster, cheaper and/or better customer service. Therefore, innovativeness was perceived to involve minor modifications to existing products, markets and/or processes to better respond to customer needs. This finding supports studies by Coulthard (2007), Tan (2007), Massa and Testa (2008) and Wang and Zhang (2008), who found that innovation is interpreted by their samples not only as new ideas, but in terms of modifications of existing products, processes and markets. Limited resources (human, physical, capital) and access to information that drives innovation process (Susman, Jansen, Michael, Bukowski, & Stites, 2006) may have contributed to the SMEs making only incremental changes to existing products and processes. For example, one of the interviewees (Owner-Director5) stated, “We all face the constraint of being a small player in a very big ocean. … To really innovate is quite difficult given the our size of our operations. So I will term our operations as a me-too. This means that we follow the big players who have a innovative products. We then modify it to suit our own clients’ tastes. Similarly, Owner-Director13 added, “We do not have mega budgets for R&D so we do what we can”.

Results from the quantitative analysis found that within the hypotheses (Table 37) developed to study the link between innovativeness and the (1) deliberate and (2) emergent SDMPs respectively Hypothesis 1a was rejected, while Hypothesis 1b was accepted. Specifically, the conduct of PLS-SEM analyses confirmed that there were no statistically significant relationships between innovativeness and Deliberate SDMP, but the positive coefficient and its low p-value between innovativeness and Emergent SDMP confirmed that an empirically sound positive relationship exists. While accepting Hypothesis 1b agrees with extant literature, rejecting Hypothesis 1a contradicts the available literature. The literature generally suggested that SMEs with a deliberate SDMP displayed lower levels of innovativeness while innovativeness was displayed at higher levels in an emergent SDMP (Miller & Friesen, 1982; Mintzberg et al., 1998). However, it would be interesting to note that out of the three statistically insignificant coefficients, the only coefficient that had the appropriate sign was from the Innovativeness-Deliberate SDMP relationship. This suggests that while the study found that low levels of innovativeness could indeed explain higher levels of Deliberate SDMP, the result’s probability of error was too high to be accepted. This is further exacerbated by the findings from the earlier discussion in Section 6.9.2, where it was found that the only three
formative indicators that were insignificant were those of the Innovativeness construct. This suggests that a further look at the scale and its measurements might help reduce the error and benefit future studies.

The findings from the qualitative phase of this study, however, were seemingly only partially consistent with the findings from the quantitative phase in relation to the innovativeness-SDMP relationship. It appeared that high levels of innovativeness amongst the interviewees negatively influenced the adoption of a deliberate SDMP. For example, Owner-Director12 noted, “As small and medium companies, you’ve got to be innovative to survive. That’s just how it is. If you are not innovative, if you are just selling, products and services like every other company out there, then what makes you different. How are you going to stand out? It doesn’t work that way. But do we sit down and plan? No.” The qualitative findings therefore indicated a positive relationship between innovativeness and the emergent SDMP amongst many of the interviewees. Owner-Director10 added, “It is of no point in taking a rigid stand because at the end of the day, you’re serving market needs”.

**Risk-Taking**

Risk-taking behavior is typically considered one of the key elements of entrepreneurship (Lumpkin & Dess, 1996). As discussed in Section 3.3.2, organisations can typically be classified as either taking high or low levels of risk. This study argued that Singapore SMEs adopting a deliberate SDMP would undertake low levels of risk. By contrast, it was argued that Singapore SMEs adopting emergent SDMPs were likely to assume higher risks. The two hypotheses that were tested in relation to the risk-taking and SDMP relationship within Singapore SMEs are summarised in Table 45.

<table>
<thead>
<tr>
<th>No.</th>
<th>Hypotheses</th>
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<tbody>
<tr>
<td>H2a</td>
<td>Risk-taking is negatively associated with a deliberate strategy in Singapore SMEs</td>
</tr>
<tr>
<td>H2b</td>
<td>Risk-taking is positively associated with an emergent strategy in Singapore SMEs</td>
</tr>
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</table>

The quantitative findings of this study established a low level of risk-taking within Singapore SMEs. The respondents posted an above average mean score (4.49) for risk-taking on a seven-point scale. Risk-taking has been promoted as one of the characteristics of entrepreneurs, but research has shown that entrepreneurs do not necessarily differ from non-entrepreneurs in their risk-taking attitude (Radcliffe & Klein, 2002). The qualitative findings of this study, by contrast, indicated a partial support to the quantitative findings in
relation to the level of risk assumed by the interviewees. A few of the interviewees, in support of the quantitative findings, appeared to adopt a low level of risk. Many of the interviewees suggested that low levels of risk were adopted particularly when committing financial resources. For example, Owner-Director1 noted, “We can’t be bold, because it’s not a bottomless pit. Its our resources, literally it’s coming out from our bank accounts, from our pockets. So we have to be quite reasonable in that sense”. Similarly, Owner-Director7, when discussing the level of risk undertaken expressed “Low to medium. … No, we can’t afford high risks, because we have only got this trade to be our livinghood, and so we have to be careful”. This was understandable as cash flow is one of SMEs’ key weaknesses (Brockhaus, 1980). Some interviewees, however, indicated assuming higher levels of risk. For example, Owner-Director14 in discussing the level of risk undertaken, noted, “The moment we know that we have the capital, we can take the risk, we’ll go ahead with it”.

Based on the above discussion, there was seemingly a mixed approach to risk-taking amongst the interviewees. Many interviewees seemingly associated high levels of risk to seizing new opportunities such as targeting new consumer segments and/or entering new markets. This is consistent with the extant literature as entrepreneurial organisations are characterised by their ability to recognise and exploit opportunities in the marketplace to create an advantage (Shane & Venkataraman, 2000). Some of the interviewees further suggested that seizing opportunities was high risk, as results were not guaranteed and that the risks were undertaken in the absence of a thorough market analysis. For example, Owner-Director11 stated, “There’s always risk. I mean even with the current range of customers, there’s always risk that a project can go bad or it can take up more time than you thought it would and therefore render itself not very profitable. And so you have to be able to manage that risk and know when to disengage at some point from that particular cause”. Many of the interviewees added that Singapore SMEs were exposed to many operational risks. All interviewees accepted that owner-directors were already taking risk due to the opportunity cost of giving up the typically steady income associated with a career in an established organisation. There, however, appeared to be agreement to the fact that risk-taking becomes more averse as the organisations grow in size. Bold risks are seemingly taken during the early stages of starting up the business while the risk-taking becomes more averse as the business becomes more developed. These sentiments were echoed by Owner-Director11 who stated, “When we started out we took a lot of risks, but I think right now, I wouldn’t say we are less risky, but there’s less need to be”. This is consistent with the findings of other researchers (e.g., Hughes & Morgan, 2007) who have noted that risks are associated with different stages of organisational development.
The conduct of PLS-SEM analyses in the quantitative phase of this study rejected Hypothesis 2a, but accepted Hypothesis 2b, developed for this research aim (Table 38). Firstly, it was established that there was in fact a strong, empirically significant positive relationship between risk-taking and the deliberate SDMP. This differs from the existing literature, which generally acknowledges that the non-intuitive and analytical nature of a deliberate SDMP reduces the level of risk (Bailey et al., 2000; Calori, 1998; Chaffee, 1985; Mintzberg et al., 1998). Consequently, the relationship between risk-taking and the emergent SDMP in this study was found to be positive, which supports the posited relationship in Hypothesis 2b. Again, this finding is consistent with the existing literature, which generally argues that emergent SDMPs are more risky (Dew et al., 2009).

The qualitative findings in this study seemingly partially differ from the quantitative findings in relation to the risk-taking and SDMP relationship amongst Singapore SMEs. First, it appears that risk-taking has a negative association with the adoption of a deliberate SDMP amongst the interviewees. Some of the interviewees, for example, indicated that taking high risks posed significant financial risks to the owners, which could lead to potential financial ruin. As such, there appears to be a need for an analysis conducted to mitigate risks before committing resources. One of the interviewees (Owner-Director13) expressed that “We do not just go on gut feel or throw caution to the wind. We must analyse first, discuss and if it makes sense, then we proceed. These sentiments were echoed by another interviewee (Owner-Director4) who added, “We have very low level of uncertainty because we are not risk-takers in the first place”. By contrast, high levels of risk taking, appears to have a positive impact on the adoption of emergent SDMP amongst the interviewees. Many of the interviewees suggested that organisational operations and decision making requires the quick adaption to changes. Such changes are seemingly often made without the conduct of a thorough analysis and based more on intuition. This is consistent with the accepting of Hypothesis 2b.

**Proactiveness**

The rapidly changing business environment requires companies, particularly SMEs, to constantly seek out new opportunities. One of the primary characteristics of entrepreneurial organisations, such as SMEs, is their willingness to proactively identify and exploit environmental opportunities through a more active information search to outperform their rivals (Covin & Slevin 1989; Lumpkin & Dess, 2001). Proactiveness anticipates competitive moves and is an important factor for achieving a distinct competitive advantage (Blumentritt & Danis, 2006; Freeman & Engel, 2007). As discussed previously
in Section 3.3.3, this study argued that proactiveness positively influences both the deliberate and emergent SDMPs amongst Singapore SMEs. The two hypotheses that were tested in relation to the proactiveness-SDMP relationship within Singapore SMEs are summarised in Table 46.

Table 46: Hypotheses Tested for Research Aim 2 (Proactiveness)

<table>
<thead>
<tr>
<th>No.</th>
<th>Hypotheses</th>
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<tbody>
<tr>
<td>H3a</td>
<td>Proactiveness is positively associated with a deliberate strategy in Singapore SMEs</td>
</tr>
<tr>
<td>H3b</td>
<td>Proactiveness is positively associated with an emergent strategy in Singapore SMEs</td>
</tr>
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</table>

The quantitative findings of this study established that proactiveness was high amongst Singapore SMEs. The respondents posted an above average mean score (4.78 on a 7-point scale) for proactiveness. The findings from the qualitative phase of this study seemingly echoed the quantitative findings in suggesting that proactiveness was prevalent amongst the interviewees. The proactiveness of the interviewees was seemingly displayed in their constant analysis of the market to identify and seize new opportunities, particularly in overseas ventures. In today’s dynamic and competitive business environment, organisations must aggressively scan the environment to reduce uncertainty in the environment and be able to react quickly to change. Environmental scanning has become one of the most important duties for managers (Suh, Key, & Munchus, 2004). Many of the interviewees suggested that market analysis included discussions with suppliers and industry players. This is consistent with the available literature, where networking is considered an effective way for entrepreneurial organisations to access resources (Dess, Pinkham, & Yang, 2011). Proactiveness was also seemingly displayed in many of the interviewees in terms of relying on secondary data from newspapers, magazines, social media and Internet sources as well as conducting market research by reviewing intelligence reports to assess demand and potential market growth. This is in line with the extant literature, which suggests that SMEs constantly seek to stay abreast, adapt and identify opportunities in a continually changing environment (Berry, 1998; Gibb & Scott, 1985; Robinson & Pearce, 1984; Verreyne, 2006). Wiesner and Millett (2012) and Stonehouse and Pemberton (2002), added that SMEs employed only a limited range of strategic tools when conducting their market analysis.

This study established that that there were two significant relationships between proactiveness and the deliberate and emergent SDMPs respectively through the conduct of PLS-SEM analyses of the developed hypotheses (Table 39). Both of these findings is fitting in light of extant literature. In relation to the proactiveness-deliberate SDMP relationship,
the existing literature generally holds that organisations carefully analyse the internal and external environment through the use of analytical tools before strategies are subsequently developed and implemented (Mintzberg et al., 1998; Placet & Branch, 2002). Similarly, in emergent SDMPs, the existing literature suggests that organisations are proactive in changing their strategies on a constant basis to stay abreast of the rapidly changing environment (Cyert & March, 1963; Hitt & Tyler, 1991).

The qualitative findings in this study on the proactiveness-SDMP relationship amongst Singapore SMEs is seemingly congruent with the results from the quantitative findings. The qualitative findings indicated that the relationship between proactiveness and SDMP was positive for both deliberate and emergent approaches, which was in line with the developed hypotheses (Table 39). As discussed previously, many of the interviewees seemingly acknowledged the high levels of proactiveness within their organisations. Some of the interviewees, when analysing new opportunities, indicated that a detailed analysis of the opportunities was conducted before committing resources. This was indicative of proactiveness having a positive influence on the adoption of a deliberate SDMP amongst the interviewees. For example, one of the interviewees (Owner-Director13) stated, “We analyse in terms of numbers and demand”. Another interviewee (Owner-Director4) added that “We analyse and we have to do a field experiment study”. Similarly, high levels of proactiveness amongst the interviewees also appeared to have a positive influence on the adoption of an emergent SDMP. Many of the interviewees seemingly used intuition or informal conversations in analysing markets and opportunities. One interviewee (Owner-Director9), in accordance, noted, “There is no analysis, unfortunately. It’s very much down to meeting people and getting a good vibe from them”.

**Autonomy**

Autonomy is fundamental in entrepreneurial endeavor (Monsen, 2005). As previously discussed in Section 3.3.4, this study argued that autonomy is negatively associated with a deliberate SDMP. By contrast, it was argued that autonomy is positively associated with an emergent SDMP. In view of this, the two hypotheses that were tested in relation to the autonomy-SDMP relationship within Singapore SMEs are summarised in Table 47.

**Table 47: Hypotheses Tested for Research Aim 2 (Autonomy)**

<table>
<thead>
<tr>
<th>No.</th>
<th>Hypotheses</th>
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<tbody>
<tr>
<td>H4a</td>
<td>Autonomy is negatively associated with a deliberate strategy in Singapore SMEs</td>
</tr>
<tr>
<td>H4b</td>
<td>Autonomy is positively associated with an emergent strategy in Singapore SMEs</td>
</tr>
</tbody>
</table>
The quantitative findings of this study established that autonomy was a relatively highly rated construct within respondents, as it posted an above average mean score (4.49) for autonomy, as measured on a seven-point scale. The findings from the qualitative phase of this study contradicted the quantitative findings, with the former suggesting that autonomy was not widely practiced amongst the interviewees.

One of the key reasons why many of the interviewees indicated low levels of autonomy was the strong leader orientation seemingly inherent in their organisations. Many interviewees indicated that important decisions were typically left to the leader of the organisation, who is usually the owner(s) and/or top management of the business. For example, Owner-Director8 when asked about who makes important strategic decisions in the organisation expressed, “I, being one of the directors. The main person is my husband, who is actually the mastermind of this shop. After that it’s one of my family members. It’s the teamwork”. Similarly, Owner-Director7 remarked, “It’s just down to myself, and maybe with the wife”. These sentiments were echoed by Owner-Director14 who noted “Basically it’s me” and Owner-Director2 who added, “Mainly and chiefly it would be me”. This is consistent with the extant literature, which argues that strategic planning in SMEs is the sole responsibility of the owner or top executive (Barker & Smith Jr, 1998; Hankinson, Bartlett, & Ducheneaut, 1997; Steiner, 1979). Naffziger and Mueller (1999) concurred that top management and the CEO determine the strategic plans for SMEs. It must be noted, however, that despite the seemingly high importance placed on the owner-directors, the interviewees did appear to recognise the importance of staff development. Many of the interviewees indicated that staff development was necessary to enhance productivity, staff morale and keep up with changing customer expectations and technology. Owner-Director14, for example, expressed, “We do send our staff for training. I think training is good because somehow, it is returned back to the organisation”. Similarly, Owner-Director2 added, “Training wise, it is not the formal kind of classroom-textbook training. It almost like an on-the-job training because different customers have different needs”.

Results from the quantitative analysis in testing hypotheses H4a-H4b (Table 40) found that there were two significant and positive relationships between autonomy and both the deliberate and emergent SDMPs. The findings relating to Hypothesis 1 challenges the existing literature. The existing literature suggests that a deliberate SDMP is typically associated with a top-down, centralised and controlled approach (Mintzberg et al., 1998), which can be interpreted as the opposite of autonomy. By contrast, the emergent SDMP is typically associated with a more bottom-up and decentralised approach, which aligns with
autonomy (Hughes & Morgan, 2007). In relation to the autonomy-SDMP relationship, the qualitative findings from this study differed from the quantitative findings. In line with Hypothesis 4a, it appears that there is a negative association between high levels of autonomy and the adoption of a deliberate SDMP amongst the interviewees. Many of the interviewees adopting a deliberate SDMP seemingly excluded the rest of the staff in the SDMP. There was also very little empowerment of the staff, who were seemingly confined to decisions relating to operational duties. This finding found support in the study conducted by Gilmore, Carson, and O'Donnell (2004), who postulated that businesses were reluctant to delegate to their employees since there was a risk that the employees would leave the company with potentially valuable information or that tasks would not be completed satisfactorily.

Similar to the above discussion, the qualitative results appear to portray a negative association between high levels of autonomy and interviewees adopting an emergent SDMP. For example, the majority of the interviewees adopting an emergent SDMP, seemingly kept autonomy awarded to the staff to the minimum. There were indications that lower levels of staff quality typically found in Singapore SMEs and lack of staff commitment led to lesser autonomy being offered within such organisations. Although many of the interviewees adopting emergent SDMP seemingly allowed staff to contribute ideas, the final decision was always left to the senior management. In accordance, Owner-Director6 acknowledged, “Yes, I allow them but it’s always not accepted (laughs). Wild ideas sometimes you know. Similarly, owner-Director4 added, “I’m the director and I am the owner. The staff, at this point, they are merely doing their tasks. They’re not involved in the planning and strategising”. However, the quantitative analysis pertaining Hypothesis 4b revealed an empirically significant positive relationship between autonomy and emergent SDMP. This seems to contradict the results from the qualitative analysis. The significance and relevance of this will be further explored in Section 8.

**Competitive Aggressiveness**

Competitive aggressiveness refers to outdoing competitors and includes ambitious market share goal-setting or aggressive actions such as price-cutting, outspending competitors in marketing and/or building larger production capacities (Lumpkin & Dess, 1996). As discussed in Section 3.3.5, this study argued that competitive aggressiveness is positively associated with both the deliberate and emergent SDMPs. The two hypotheses that were tested in relation to the competitive aggressiveness-SDMP relationship within Singapore SMEs are summarised in Table 48.
Table 48: Hypotheses Tested for Research Aim 2 (Competitive Aggressiveness)

<table>
<thead>
<tr>
<th>No.</th>
<th>Hypotheses</th>
</tr>
</thead>
<tbody>
<tr>
<td>H5a</td>
<td>Competitive aggressiveness is positively associated with a deliberate strategy in Singapore SMEs</td>
</tr>
<tr>
<td>H5b</td>
<td>Competitive aggressiveness is positively associated with an emergent strategy in Singapore SMEs</td>
</tr>
</tbody>
</table>

This study’s quantitative analysis findings confirmed that competitive aggressiveness was adopted by Singapore SMEs. However, the Singapore SMEs sampled displayed a low level of competitive aggressiveness, in fact, the lowest amongst all the EO constructs. The respondents posted a marginally above average mean score (3.50) for competitive aggressiveness, as measured on a seven-point scale. The findings from the qualitative phase of this study partially supported the quantitative findings in establishing that competitive aggressiveness was not highly prevalent amongst the interviewees. Many of the interviewees indicated that organisational growth was not competitor-led, but rather opportunity-led. This seemingly meant that growth was determined by acting upon revenue-generating opportunities as opposed to outdoing the competitors. Many interviewees suggested that they were not keen in adopting a combative posture towards competitors. While many interviewees appeared to monitor the actions of their competitors, this was seemingly done to providing guidance on their own actions and not to outdo the competitors. For example, Owner-Director9 stated, “We don’t measure ourselves against our competitors. Our real competition is ourselves and the evolving market conditions”. Likewise, Owner-Director2 expressed, “We don’t find ourselves, you know, coming out with something new that our competitors have to react to and vice versa. This is because what we come up with may not sit well with our customers at all. So, all of us, I believe are waiting for directions and needs of any change from our customers before we all react”. The reluctance of the interviewees to directly confront their rivals’ actions was also reported by Krauss et al. (2005) study using the respondents of South African SMEs. Ferrier, Fhionnlaoch, Smith, and Grimm (2002), furthermore, suggested that an organisation’s finances drive its choices about how to compete: either aggressively or more passively. Therefore, it is suggested that lack of resources (e.g., financial, capability) may also have inhibited SMEs in this study from demonstrating a combative posture toward rivals and competing aggressively to surpass their rivals in the marketplace.

In addition to the above discussion, not all of the interviewees indicated interest in growing their business. Some interviewees suggested that they may choose to grow sideways and remain as SMEs within their current capacity as opposed to becoming larger enterprises.
The key reason for this reduced desire to grow into larger organisations appears to lie in the desire to retain control over the organisation on the part of the owners. One of the interviewees (Owner-Director2), for example, stated, “We’re not looking actively for an expansion in a very big way”. Similarly Owner-Director7 added, “I think we’re quite comfortable with what we have now”. This is consistent with the existing literature as not all organisations are interested in pursuing growth (Davidsson, 1989; Gundry & Welsch, 2001; Wiklund, Davidsson, & Delmar, 2003).

The conduct of PLS-SEM analyses in this study confirmed that competitive aggressiveness is positively associated with a deliberate SDMP within Singapore SMEs, just as posited in Hypothesis 5a (Table 41). Contrastingly, a significant negative relationship was found between competitive aggressiveness and the emergent SDMP. The second finding relating to Hypothesis 5b departs from the existing literature, which generally suggests that competitive aggressiveness is inherent in both the deliberate and emergent SDMPs as SMEs compete in a dynamic market environment either through the conduct of formal analysis (deliberate SDMP) or quick adaptation to changes in the absence of formal analysis (emergent SDMP) (Mintzberg et al., 1998; Porter, 1980).

The qualitative findings of this study were only partially consistent with the quantitative findings in relation to the competitive aggressiveness-SDMP relationship. It appears that there is a positive association between competitive aggressiveness and both the deliberate and emergent SDMPs. In being competitively aggressive, interviewees seemingly study the competition via formal analysis of their performance numbers. However, the analysis of the competition, as discussed earlier, is seemingly not done for the purposes of outdoing them. Rather, the competitor analysis is seemingly done by many of the interviewees to develop and replicate appropriate strategies. For example, one of the interviewees (Owner-Director4) stated, “I’m constantly studying other people to see what model works”. Likewise, competitive aggressiveness was seemingly positively associated with interviewees adopting an emergent SDMP as well. The constant need to react to competitors’ actions in terms of improvising current products and services to retain consumers appeared to lead to the adoption of such an emergent approach. This was seemingly exemplified by Owner-Director10 noting, “Well we’re not out to undo the competitor, we like to think it as enough for everybody if you provide the right service, so we’re not out to undo them, we’re just there to give the client a more viable alternative and do something which they thought previously was unaffordable”.

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EO-SDMP Relationship

Based on the discussions in the previous section, the quantitative findings of this study confirmed that all the EO dimensions were present in Singapore SMEs. These quantitative findings were seemingly supported by the qualitative findings. The majority of the interviewees indicated that high levels of innovativeness and proactiveness were typically found in their organisations. Minister for Trade and Industry Koh Poh Koon, speaking at the launch of the Singapore Teochew Entrepreneur Award, had also reiterated that SMEs faced serious challenges in the absence of innovation (Koh, 2016). In contrast, many of the interviewees suggested that risk-taking, autonomy and competitive aggressiveness were displayed at much lower levels.

The results of the present research sustained the view that EO is mediated by strategy (Lechner & Gudmundsson, 2014; Moreno & Casillas, 2008), and that EO effects need to be considered in combination with other organisational-level constructs in order to understand organisational performance (Messersmith & Wales, 2011). The results clearly showed that the individual dimensions of EO influenced the type of SDMP differently. Surprisingly, the quantitative findings produced mixed results in accepting or rejecting the hypotheses that were developed and tested in relation to this research aim. The findings from the quantitative phase of this study, were therefore, only partially consistent with the existing literature. Of the ten hypotheses developed, four were rejected – of which three did not attain statistical significance (H1a, H2a, H4a), while the fourth was statistically significant but was wrongly associated (wrong direction). However, the other six hypotheses were all accepted based on grounds of strong and empirically significant coefficients. Consequently, the findings from the qualitative phase of this study partially concurred with the findings from the quantitative findings. In fact, the qualitative findings appeared to be more consistent with all the hypotheses developed, except for H4b. While H4b hypothesised that autonomy is positively associated with the emergent SDMP, the qualitative findings suggested a negative relationship.

A possible explanation as to why the quantitative findings of this study did not support the developed hypotheses (H1a, H2a, H4b and H5b) could be the mixed SDMP adopted by the Singapore SMEs in this sample. As previously discussed in Section 8.4, the quantitative findings of this study established that a mixed SDMP (encompassing both the deliberate and emergent SDMPs) was adopted by the Singapore SMEs. As a result of this mixed SDMP amongst Singapore SMEs, it could be argued that the quantitative findings of this study were unable to identify the relationships between each of the five dimensions of
EO and the deliberate and emergent SDMPs respectively. The qualitative findings, by contrast, offered deeper insights from the interviewees and were seemingly able to provide a better indication of the relationships between each of the dimensions of EO and the deliberate and emergent SDMP respectively.

Another potential reason for the weak support for the quantitative findings in the four aforementioned hypotheses could be the way in which the Singapore SMEs understood the various dimensions of EO. The qualitative findings suggested that the demonstration of all five EO dimensions in this study differed from those reported in the literature. For example, innovativeness is typically characterised by a strong R&D emphasis, technological leadership, the introduction of new products and the degree of changes in product or service lines (Covin & Wales, 2011). The qualitative findings of this study, however, suggested that Singapore SMEs were led more by incremental innovation as opposed to radical innovation. Incremental innovation refers to the concept of ‘newness’ being applied at the organisational level, whereas radical innovation applied the concept of ‘newness’ to the market level (Oke, Burke, & Myers, 2007). Madhur, Low and Sally (2015, p. A20) concurred that, “Singapore continues to be dependent on low-end and high-end imitation. Little genuine innovation, in terms of new and creative activities happens in Singapore”.

Likewise, risk-taking is typically high amongst entrepreneurial organisations according to the existing literature (Barclay, & Lalumière, 2014; Wiklund & Shepherd, 2005). Conventional wisdom suggests that risk-taking is low in less entrepreneurial organisations. In this study, however, the qualitative findings indicated mixed risk-taking amongst the majority of the sample of Singapore SMEs interviewed. Many of the interviewees suggested that bold and averse risk behavior undertaken was dependent on the type of decision to be made. The interviewees seemingly displayed more risky behavior in relation to decisions regarding seizing opportunities, which appear to be made without the need to engage in a thorough analysis (emergent SDMP). By contrast, decisions in relation to financial resources, appears to involve less risk through the conduct of a thorough analysis (deliberate SDMP).

Proactiveness involves the undertaking of environmental scanning (Haase & Franco, 2011) to seize opportunities ahead of the competition (Lumpkin & Dess, 2001; Venkatraman, 1989). The majority of the Singapore SMEs interviewed displayed some form of proactiveness, either by way of formal (analysis of secondary sources of
information) or informal (discussion with stakeholders) means. Therefore, although proactive organisations are characterised as pioneers with the distinct ability to capitalise on emerging opportunities (Wiklund & Shepherd, 2005), the sample in this study considered themselves to be somewhat proactive so long as they engaged in some form of environmental scanning with little desire in gaining first-mover advantages in the market. This is emphatically reflected in this study, as both quantitative and qualitative results lend strong support to accepting both Hypothesis 3a and 3b.

Similar to the above discussions, the extant literature indicated lesser autonomy in organisations adopting a deliberate SDMP (Lumpkin & Dess, 1996) and more autonomy in organisations adopting an emergent SDMP (Hughes & Morgan, 2007). The qualitative findings of this study, however, indicated that autonomy was evident amongst the interviewees adopting either a deliberate or emergent SDMP. As suggested by many of the interviewees, a possible reason for this low level of autonomy could be the general lack of staff commitment to Singapore SMEs as well as the typically lower levels of skills and knowledge amongst employees working for SMEs.

Based on the above discussions, it could be argued that EO behavior was exercised differently by the respondents in this study, as compared to SMEs in other studies. Given the difference in understanding of the various dimensions of EO by the SMEs interviewed, the impact on the SDMP could have been less evident in the quantitative analysis.

8.5 Research Aim 3:

Investigate the relationship between the strategy decision-making process of Singapore SMEs and organisational performance.

This research aim investigated whether the respective deliberate and emergent SDMPs adopted by Singapore SMEs resulted in higher organisational performance. As discussed previously in Section 3.4.7, studies on the SDMP of organisations and performance have produced mixed results. In view of this, the two hypotheses that were tested in relation to the SDMP-performance relationship within Singapore SMEs are summarised in Table 49.

<table>
<thead>
<tr>
<th>No.</th>
<th>Hypotheses</th>
</tr>
</thead>
<tbody>
<tr>
<td>H6a</td>
<td>There is a negative relationship between a deliberate strategy process in SMEs and organisational performance.</td>
</tr>
<tr>
<td>H6b</td>
<td>There is a positive relationship between an emergent strategy process in SMEs and organisational performance.</td>
</tr>
</tbody>
</table>
In terms of the quantitative phase, both the formative constructs (deliberate and emergent SDMP) and the reflective construct (organisational performance) were subject to rigorous statistical measures of their indicators, constructs, and path coefficients. More specifically, both constructs displayed acceptable levels of collinearity, and while the reflective construct had acceptable levels of reliability and validity, the formative constructs also predominately had significant formative indicators. The quantitative findings of this study then established that there were statistically significant and positive relationships between both SDMPs and organisational performance. Resultantly, Hypothesis 6a was rejected, while Hypothesis 6b was accepted. Other studies have presented findings that disagreed with the findings of this study. For example, many studies have suggested that the replication of deliberate strategies employed in large organisations is difficult in SMEs (Beaver & Prince, 2004; Kraus et al., 2006; Wiesner & Millett, 2012).

In relation to the above discussion, the quantitative findings of this study further established that there was a positive relationship between the emergent SDMP and performance within Singapore SMEs. This was consistent with the findings of Beaver and Prince (2004) and Wiesner and Millett (2012) who posited that an emergent strategy processes resulted in higher organisational performance. Bailey et al. (2000) had also hypothesised that incremental, or emergent, strategy processes result in higher organisational performance. The constantly changing external environment and the ability of SMEs to remain flexible and adapt quickly to such changes served as a distinct competitive advantage in comparison to larger enterprises (Bailey & Johnson, 2001; Barnes, 2002; Schwenk, 1995). This could potentially explain the higher organisational performance attributed to emergent strategies.

The qualitative findings of this study suggested that organisational performance was measured by many of the interviewees' in terms of profit-orientation and (1) customer-satisfaction. Brews and Hunt (1999) noted that performance must include both objective and subjective measures. Many of the interviewees indicated that profits were one of the key determinants in measuring overall organisational performance. For example, one of the interviewees (Owner-Director2) stated, “Orders that fill up the next six months, that will be one of the first indicators if not the key indicator that our business is doing well. First of all, if you look at our schedule down the road and we see a lot of holes in there that are not filled up, then that’s the first sign that perhaps what we’re doing, we’re not doing well enough. Owner-Director10 concurred, “Yes, that’s it. What else is there?”. The use of profits as a performance measures is supported in the existing literature (Assaf, Josiassen,
Many of the interviewees further suggested that profits were important, as Singapore SMEs typically do not possess sizable financial reserves. Some of the interviewees suggested that closing the business represented the most likely option in the absence of profits as SME owners seemingly want to cut their losses. In accordance, one of the interviewees (Owner-Director8) expressed, “We're running a business for profit. If I don't see it, then I have to decide whether I want to prolong, or if I want to stop”.

In addition to the above discussion, many of the interviewees seemingly further related customer satisfaction to organisational performance. The use of customer satisfaction as a subjective criteria is supported by the extant literature (Antoncic & Hisrich, 2003). Customer satisfaction is seemingly seen by many of the interviewees as a catalyst for repeat purchases and higher revenues. For example, one of the interviewees (Owner-Director3) expressed “I think what’s important is to be very proactive and engage our clients. They will always have, I think, issues. Business issues that I think we can always add value on. So, it is giving those in fact, free advice, that probably helps our clients the most. The work needs to be done, needs to be done good to get paid a fee. I think it's beyond that, engaging the client”. The way in which Singapore SMEs appeared to enhance customer satisfaction was seemingly by ensuring better products, services and processed. Despite the interviewees suggesting the importance placed on customer satisfaction, evaluations on customer satisfaction were seemingly not done via formal mechanisms. Instead, it appeared that many of the interviewees based higher levels of customer satisfaction on the number of repeat customers that they had. It could be argued that financial restrictions made it difficult to implement such formal mechanisms.

The findings of the qualitative phase of this study in relation to the SDMP-performance relationship were seemingly consistent with the quantitative findings. It appears that deliberate, emergent as well as mixed SDMPs amongst the interviewees is positively associated with organisational performance. The majority of the interviewees suggested good organisational performance is associated with their respective strategies in positively impacting on the performance. One of the interviewees, for example, noted, “They are of course, linked. If you don’t have a good strategy your performance will be affected so they cannot be disintegrated. They must go hand in hand. You cannot have a poor strategy and then expect to sail.” This finding is supported by the existing literature which generally suggests that emergent SDMPs offer flexibility (Mintzberg et al., 1998; Quinn, 1981), whereas deliberate SDMPs offer structure and direction (Steiner, 1979). It could, however,
be argued that the emergent SDMP has a more positive relationship with performance as Singapore SMEs have to continually update their products, services and processes to keep up with the changing needs and wants of their consumers. This is consistent with the findings of Hannan and Freeman (1984), who noted that an emergent SDMP enables organisations to change strategies quickly to exploit emerging opportunities or risk missing these opportunities and weakening their competitive positions.

**8.6 Research Aim 4:**

**Determine if the environment has a moderating effect on the relationship between the strategy decision-making process of Singapore SMEs and organisational performance.**

As discussed in Section 3.5, environmental uncertainty is an element present in all environments since full knowledge of market conditions such as new technologies, geographical markets, or new products, is not possible (Eckhardt & Shane, 2003). The dimensions of the environment thus influence the relationship between an organisation’s strategy and growth (Wiklund & Shepherd, 2005), serving as a moderating variable between strategy and performance (Eisenhardt, 1989; Hough & White, 2003). The dimensions of the environment used in this study included instability, complexity and munificence. As discussed in Section 4.2.5, this study argued that environmental uncertainty negatively moderated the deliberate SDMP-performance relationship and positively moderated the emergent SDMP-performance relationship. The two hypotheses tested in relation to this research aim are summarised in Table 50.

**Table 50: Hypotheses Tested for Research Aim 4**

<table>
<thead>
<tr>
<th>No.</th>
<th>Hypotheses</th>
</tr>
</thead>
<tbody>
<tr>
<td>H7a</td>
<td>Environment uncertainty has a negative moderating effect on the relationship between a deliberate strategic decision-making process within Singapore SMEs and performance.</td>
</tr>
<tr>
<td>H7b</td>
<td>Environmental uncertainty has a positive moderating effect on the relationship between an emergent strategic decision-making process within Singapore SMEs and performance.</td>
</tr>
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</table>

In Section 6.9.2, the eight collinearity and significance levels of the formative indicators were examined. Out of these eight constructs, five of them represented the entrepreneurial orientation construct, two for the previously mentioned SDMP constructs, while the last for the moderator construct of Environment Uncertainty. Specifically, the section first considered if the formative indicators of the moderator constructs had acceptable levels of collinearity. Unlike reflective indicators, formative indicators should have lower correlations between them. Hair et al. (2016) suggested that formative indicators that are highly
collinear can be problematic as it can result in weights being incorrectly estimated in the PLS-SEM model. The results in Section 6.5.2 showed that all the indicators have VIF values of 5, indicating that there is little overlap in each indicator in explaining their respective constructs. It must, however, be noted that despite all three dimensions of the environment being demonstrated by the SMEs in the sample, one of the items (EnvCmplxQ1) measuring complexity had to be dropped due to it loading instead with munificence and with a negative value. This indicated that this specific item measuring the dimension of environmental complexity was not specific to the Singapore SMEs.

The qualitative findings of this study were only partially consistent with the quantitative findings in suggesting that all three dimensions of the environment impacted on the operations of the interviewees. The majority of the interviewees indicated that the instability in the environment in Singapore was high and was displayed in terms of (1) market dynamics and (2) opportunities and threats. Many interviewees suggested that constantly changing market dynamics relating to economic factors, new entrants, rising competition and changing consumer preferences posed significant impacts to the business. For example, one of the interviewees (Owner-Director13) noted, “Economy for sure. Currency and of course government regulations. We have had problems in Malaysia and Indonesia because of currency fluctuations and government regulation changes”. Owner-Director5 added, “All these environment factors will have very severe impacts on our operations”. This finding is supported by the existing literature, which suggested that instability in the environment affects organisational outcome in that there is greater uncertainty for organisations to assess the current and future state of the environment and act accordingly (eg, Duncan, 1972; Milliken, 1987; Sirmon et al., 2007). Many interviewees suggested that the dynamic nature of the environment served either as an opportunity or threat on different occasions. It appeared that many of the interviewees undertook strategic actions to tap into identified opportunities. Similarly, in identifying threats, many of the interviewees seemingly undertook actions to counter those threats. This finding was supported by the existing literature (Eckhardt & Shane, 2003). Rosenbusch et al. (2013) and (Zahra, 1993) further noted that highly unstable environments generated more opportunities for value creation.

The qualitative findings of this study further suggested that high environmental complexity was displayed in Singapore in terms of the mixed view that interviewees indicated towards SME government initiatives. Firstly, the majority of the interviewees suggested that the Singapore government is stable and business friendly and that it has been instrumental in
the development and growth of the SME sector in Singapore. For example, one of the interviewees (Owner-Director14) noted, “Government policies, OK, right now it’s to our favour. ... There are a lot of grants given by the government.” However, some of the interviewees indicated that the Singapore government is not very supportive of Singapore SMEs. For example, Owner-Director1 expressed, “The government has now come up with bans on alcohol consumption, from a stipulated timing as you know. That has impacted on our sales margins as well because 25% of our revenue stream actually comes from the sale of alcoholic beverages”. Owner-Director8 added, “Of course if they increase the levy, how am I going to pay my staff?”. Some of the interviewees suggested that many of the initiatives and subsidies on offer to Singapore SMEs were only accessible to the more established SMEs. Furthermore, some of the interviewees indicated that the Singapore government, through the creation of government linked bodies and companies, provided stiff and unfair competition to the Singapore SMEs. It could thus be argued that environmental complexity in Singapore was high due to the diversity of the environmental elements and the sophistication of knowledge and information required for SMEs to act in this environment (Dess & Beard, 1984; Sharfman & Dean, 1991).

In relation to munificence, the qualitative findings of this study suggested that low munificence was displayed in Singapore though labor-related issues. The majority of the interviewees indicated that labor issues represented one of the key obstacles to their growth and development. These labor issues appeared to be due to the twin effects of a general scarcity of labor in Singapore as well as an increase in the demand for labor. This has seemingly led to a struggle amongst the interviewees to fill up positions in their respective organisations. For example, one of the interviewees (Owner-Director7) expressed, “The key challenge is more on the manpower that we have. When they progress as they age, we need to get new blood to take over them”. Likewise, another interviewee (Owner-Director9) concurred, “Right now, for example, we have problem getting people. It’s a national issue”. Owner-Director8 added, “Every time I’ll have problem getting a proper masseuse, masseurs are very very high in demand and their salaries are not cheap, and to get a good Singaporean masseuse is even more tougher for me.” Furthermore, attracting talented staff to work in Singapore SMEs appears to be difficult as most of the talented staff are seemingly more interested in working for the bigger organisations. The majority of interviewees therefore suggested that the aforementioned labor issues have fundamentally affected their operations, increased expenses and hindered growth. Owner-Director4 echoed these sentiments when expressing, “I don’t have a strong enough team that can back me up”. This finding is consistent with the
existing literature, which suggests that resource shortages in the environment have been shown to constrain strategic planning (Koberg, 1987; Pfeffer & Salancik, 2003) and make markets more competitive (Dess & Beard, 1984; Hambrick, 1983; Porter, 1980). Many of the interviewees appeared to overcome this staff shortage by using more foreign staff, which has met with limited success due to increased restrictions and higher levies imposed on such staff.

The quantitative findings of this study established that environmental uncertainty has a positive, albeit weak (0.004 $f^2$ effect size) moderating effect on the deliberate SDMP-performance relationship. This quantitative finding was in contrast to the initial hypothesis developed as well as the available literature. Research generally indicated that companies were less likely to plan strategically as environmental uncertainty increased (Crusoe, 2000; Grinyer & Norburn, 1974; Lindsay & Rue, 1980; Matthews & Scott, 1995). Many researchers have suggested that strategic planning is not useful in a dynamic environment (Downs, Durant, & Carr, 2003; Furrer et al., 2008; Grant, 2003). As such, an unstable environment would lead to a decreased use of the deliberate SDMP (Fredrickson & Iaquinto, 1989). The quantitative finding in this study, however, was consistent with the findings of recent research, which indicated that organisations place more emphasis on strategic planning in an unstable environment (Breus & Purohit, 2007). Unstable environments therefore lead to more deliberate SDMPs (Bourgeois III & Eisenhardt, 1988; Eisenhardt, 1989; Talaulicar et al., 2005). Therefore, it was not surprising that the effect size ($f^2$) of the emergent SDMP-organisational performance relationship to be large (0.029) (Kenny 2016).

In addition to the above discussion, another quantitative finding of this study was that environmental uncertainty had a strong, positive moderating effect on the emergent SDMP-performance relationship. Again, this was congruent to the hypothesis developed and also consistent with the extant literature. In a highly uncertain environment, opportunities occur without any predictive pattern (Johnson, 1987; Stalk & Hout, 1990). Such conditions require organisations to change their strategies quickly to exploit emerging opportunities or risk missing these opportunities and weakening their competitive positions (Eisenhardt, 1989; Hannan & Freeman, 1984). In a highly uncertain environment, organisations need to change their strategies quickly to adapt to the environmental changes (Johnson, 1987; Stalk & Hout, 1990; Tushman & O'Reilly, 1997).
The qualitative findings of this study suggested that the environment played an important role in organisational performance. The vulnerabilities seemingly existent in the market (previously discussed environmental instability, complexity and munificence) appeared to represent an uncertain environment for the majority of the interviewees. Given that none of the interviewees adopted a purely deliberate SDMP, it appeared that there was an acceptance that the rapid changes in the environment did not allow for the sole dependence on a deliberate approach. Many of the interviewees seemingly agreed that such an approach would be detrimental to the organisation.

In sum, some possible explanations for the results seen in this dissertation have been discussed. The findings from the quantitative phase of this study generally found moderate to moderate-high support for the hypotheses that had been developed. In terms of the quantitative findings, ten of the sixteen hypotheses that were developed for this study found support. In relation to the remaining hypotheses, the quantitative results were either statistically not significant or were contrary to the developed hypotheses. One must always be cautious in making recommendations based on null results. The fact that the relationships tested were not significant cannot be interpreted to mean that the relationships do not exist, but rather that the relationships that did exist in the sample could have arisen by chance. This suggests that there are still important research gaps left to be filled in the areas examined in this study. In contrast, the qualitative findings from this study were generally supportive of the hypotheses that had been developed for the quantitative phase. A deeper exploration of the qualitative findings enabled potential reasons as to why the findings from the quantitative and qualitative phases in this study were not consistent. It should be noted that while these are plausible theoretical explanations for the relationships seen here, other explanations may exist. In addition, since these theoretical developments have been influenced by data analysis, further theoretical development would be needed and a test of these hypotheses on a separate sample would be required to truly provide any support for these propositions.
8.7 Key Conclusions of this Study

The previous section discussed the key findings of this study. This section presents the main conclusions of this study by pulling together the key findings. The main conclusions from this study were:

1. Singapore SMEs engaged in a mixed SDMP, comprising of both the deliberate and emergent SDMPs. The deliberate SDMP was seemingly adopted by Singapore SMEs to provide a sense of direction while the emergent SDMP enabled a quicker reaction to environmental changes. There were further indications that as organisations become bigger, the focus on deliberate SDMPs increases.

2. The five dimensions of EO, namely innovativeness, risk-taking, proactiveness, autonomy and competitive aggressiveness were displayed amongst Singapore SMEs within the qualitative phase. Innovativeness, Proactiveness, Risk-taking and autonomy were displayed in high levels amongst Singapore SMEs, while competitive aggressiveness were displayed in lower levels. The various levels of the dimensions amongst the Singapore SMEs displayed the multidimensionality of the EO construct.

3. In relation to the EO amongst Singapore SMEs, innovativeness seemingly involved adapting products, services and processes from other organisations. Risk-taking was indicated to involve both risk averse and bold strategies at different stages of the SME life cycle. Autonomy seemingly involved consigning staff to operational duties with key decisions being made by the leaders. Lastly, it was suggested that growth was led by seizing opportunities, with little emphasis on competitive aggressiveness.

4. Of the five EO constructs, Innovativeness, Risk-taking and Autonomy all had statistically insignificant relationships with deliberate SDMP and thus their hypotheses were rejected. The fourth rejected hypothesis, Hypothesis 5b, was concluded from a negative competitive aggressiveness-emergent SDMP relationship result. The other dimensions of EO had statistically significant relationships with the type of strategy (deliberate or emergent) adopted by Singapore SMEs.
5. In relation to the measurement of performance amongst Singapore SMEs, it appeared that many of the Singapore SMEs are profit-orientated and customer satisfaction-orientated. The focus on profits was seemingly due to the lack of financial resources inherent in the sample Singapore SMEs interviewed. The profits were therefore important in sustaining the business. Alternatively, customer satisfaction was suggested to be important as it spurred repeat purchases thereby leading to higher revenues.

6. There was a positive relationship between a deliberate SDMP in Singapore SMEs and performance, contrary to extant literature. Alternatively, there was a positive relationship between an emergent SDMP in Singapore SMEs and performance, which is congruent to extant literature.

7. Instability in the environment seemingly comprised of market dynamics and the presence of opportunities and threats. It was further suggested that complexity involved the mixed view of SME government initiatives seemingly held by Singapore SMEs. Lastly, it was indicated that munificence comprised of labor issues pertaining primarily to labor shortages.

8. Environment uncertainty did not have a negative moderating effect on the relationship between a deliberate strategic decision-making process within Singapore SMEs and performance. However, environment uncertainty did have a positive moderating effect on the relationship between an emergent strategic decision-making process within Singapore SMEs and performance.

8.8 Theoretical Contributions
The findings of this study provided significant contributions to the fields of EO and SDMP. These findings are of interest to both academics and practitioners alike in the field of entrepreneurship and strategy. In terms of theoretical contributions, this study developed and tested a theoretical model combining entrepreneurship and strategy elements in a totality that had not been done before. To the researcher's knowledge, this is the first empirical study of Singapore SMEs that investigated the relations of all five EO dimensions (autonomy, innovativeness, risk-taking, proactiveness and competitive aggressiveness), the SDMP, organisational performance and the moderating impact of the environment. Another significant contribution was that this study was based on Mintzberg’s (1990) Ten
School’s of Thought as opposed to other widely used approaches to strategy in the extant literature (e.g., Miles et al., 1978; Porter, 1980).

To the literature, the findings of this study contributed to the better understanding of the SDMP within Singapore SMEs. The inclusion of the framework developed by Bailey et al., (2000) provided a comprehensive model of analysis in determining the nature of strategic approaches in SMEs. The PLS-SEM model designed in this study partially compliments this model. The findings of this study added knowledge to the limited information and research available on strategy in SMEs (Beaver & Prince, 2004; Gibson & Cassar, 2002; Kraus et al., 2006; von Gelderen et al., 2000), particularly amongst Singapore SMEs (Ghosh et al., 2001; Sum et al., 2004). Many empirical studies had advocated a more deliberate approach to strategy in larger organisations (Beaver & Jennings, 2000; Matthews & Scott, 1995; Robinson & Pearce, 1984; von Gelderen et al., 2000) and a more emergent approach to strategy in smaller organisations (Kraus et al., 2006; Mazzarol, 2005; Verreynne & Meyer, 2010). This study suggested that Singapore SMEs adopted a mixed approach to the SDMP. This was in line with the literature suggesting that the strategy process in organisations usually involves a combination of both these approaches (Bailey et al., 2000; Gibcus and Kemp, 2003; Mintzberg et al., 1998). This mixed SDMP incorporated a ‘partial’ adoption of the deliberate SDMP and a ‘heavier’ use of the emergent SDMP. The deliberate SDMP within Singapore SMEs was evident through the setting of objectives and adoption of formalised structures. However, it appeared that the deliberate SDMP was mainly adopted to provide a sense of direction to Singapore SMEs. The findings further suggested that as SMEs become bigger, there is an increased use of a more deliberate strategic approach. In contrast, an emergent SDMP was typically adopted to a greater extent by the Singapore SMEs. This emergent SDMP enabled Singapore SMEs to adapt quickly to environmental changes. This flexibility and nimbleness was seen as one of the key factors that differentiated SMEs from the larger enterprises and was instrumental to their success.

In relation to EO, this study added to the literature debate of the dimensionality of entrepreneurial orientation (EO). Some researchers have theorised that EO construct is a uni-dimensional concept, (e.g., Covin & Slevin, 1989; Miller, 1983), while others have suggested that the EO dimensions are multidimensional (e.g., Lumpkin & Dess, 2001; Hansen et al., 2011; Kreiser et al., 2002). Furthermore, several researchers had posited that EO is a concept developed for introducing entrepreneurship into large organisations as opposed to SMEs (Aloulou & Fayolle, 2005; Frishammar & Andersson, 2009). In
response to their concern, results in this study confirmed that Singapore SMEs demonstrated their willingness to engage in entrepreneurial behavior. The findings in this study therefore suggested that the EO construct is not only valid and relevant to large organisations as widely reported by previous studies, but also applicable to SMEs. This is in line with Dess and Lumpkin (2005) and Covin and Wales (2012), who suggested that EO is applicable across organisations, regardless of size (i.e., small or large), type (i.e., public or private) or age (i.e., young or old). This study further established that the some dimensions of EO did not influence the SDMP within Singapore SMEs, which was not supported by the available literature (Bailey et al., 2000; Miller & Friesen, 1982; Mintzberg et al., 1998).

Another key theoretical contribution of this study is that it was conducted in Singapore, a country with a substantially different set of social institutions to those in the United States and other developed countries, where the EO scale was formulated and widely empirically investigated. This study revealed that the expression of EO dimensions within Singapore SMEs differed from that in western or other developed countries. As discussed previously, innovativeness was seemingly not related to ‘novelty’, but instead to adapting innovative products, services and processes created by other organisations. Risk-taking appeared to comprise of both risk averse and bold strategies. Furthermore, the general level of autonomy was seemingly low with key decisions being made by the leaders of the organisations. Lastly, competitive aggressiveness was suggested to be driven by opportunity led growth with little emphasis on outperforming the competitors.

Another contribution to the literature is that this study confirmed that there was a positive, albeit weak, relationship between the deliberate SDMP and performance and a positive relationship between the emergent SDMP and performance in Singapore SMEs. This was in line with previous research (eg., Kraus et al., 2006; Wiesner & Millett, 2012). In addition, the qualitative findings of this study suggested that performance was profit and customer oriented amongst Singapore SMEs. The strong emphasis on profits in measuring performance appeared to be due to the pressures involved in sustaining the business given the lack of resources amongst SMEs (Berry, 1998; Chia, 2015g; Wong, 2015). In addition, the emphasis on customer satisfaction, as posited by Antoncic & Hisrich (2003), is seemingly due to customers returning for repeat purchases if they are kept happy. This would ultimately result in higher revenue generation. The qualitative findings further suggested that any strategy, deliberate, emergent or mixed, so long as it is well deployed would impact positively on performance.
Next, the findings of this study introduced new evidence on the relationship between a company’s SDMP and performance, as moderated by the environment. This study established that the environment did not have a negative moderating effect on the deliberate SDMP-performance relationship, but instead have a small positive moderating effect. Furthermore, this study found that the environment did in fact have a strong, positive moderating effect on the emergent SDMP-performance relationship. This is in contrast to the available literature (eg., Brown & Eisenhardt, 1997; Fredrickson & Mitchell, 1984; Miller & Friesen, 1982).

Lastly, where empirical research was conducted on EO and/or the nature of SDMPs within SMEs, it was typically limited to purely quantitative or qualitative in approach. This study combined both quantitative and qualitative methodologies to achieve a complete, realistic and robust portrayal of the various constructs under study within Singapore SMEs. Such an integrated approach helped to better comprehend the general and local characteristics of the SDMP within Singapore SMEs. In adopting a mixed methods approach in this study, the quantitative findings enabled generalisations to be made to the wider population while the qualitative findings added depth and richness to the overall analysis. In all, the sixteen hypotheses developed and tested in this study and fourteen interviews conducted aided in the development and deeper understanding of an integrated model of study of the EO, SDMP, performance and the environment within Singapore SMEs.

8.9 Managerial Contributions
In terms of managerial contributions, this study has improved awareness and provided valuable information to SME owner-directors in developing best practices for strategic process activities in SMEs. In relation to the active use of mixed strategic approaches in Singapore SMEs, it would also be beneficial to offer training programmes that were designed specifically towards SMEs in line with this mixed approach to strategy. Training programmes provided by external training providers should thus be aligned towards how deliberate and emergent strategies could be combined effectively, as opposed to the current focus on purely deliberate strategies.

Next, this study found that the owner-directors of Singapore SMEs possessed high levels of education and had exposure to knowledge and skills relating to the use of formal strategic approaches. Many also had experience working in large enterprises and applied deliberate approaches that had worked in larger enterprises to the running of their respective SMEs. However, they limited the use of the deliberate SDMP as they were
aware that SMEs differed from large enterprises and simply replicating the model of large enterprises would not relate to success. Reasons attributed to the difference included lower resources, increased need to be flexible and adapting to external changes and the perceived lower quality and commitment of staff working in Singapore SMEs who may find the understanding of complex models and tools difficult to comprehend. This is particularly important as SMEs are poised to play a key role in the future growth of the Singapore economy. It will also help policy makers better understand and subsequently develop the SME sector.

Singapore SMEs further contend that the majority of staff in Singapore was not attracted and motivated to work in SMEs in the long run. It was for this reason that many SMEs also did not involve the staff from the rest of the organisation in the strategy formulation process, despite understanding the benefits of such a move. Moreover, some have questioned the capacity of staff in Singapore SMEs to partake in the strategy making process and utilise strategic tools as the better, more talented staff preferred or were already employed in MNCs and larger enterprises. In view of this, it was considered important that training programmes be widened to enable the practitioners of SMEs to understand the function, importance and use of vision, mission and statement of values as well as the various strategic tools as many SMEs viewed them to be far too complicated for use by both Owner-Directors and staff. It was also important to improve the profile of Singapore SMEs so that they were seen as attractive employment options for talented staff in Singapore. This would also help to entice higher levels of commitment amongst staff in Singapore SMEs.

8.10 Limitations
This section of the dissertation discusses the key limitations of this study. Although the results of this study are instructive in a number of ways, the implications should be considered in light of the study’s limitations and directions for future research. It is deemed that there are some key limitations to this study, which are presented next.

8.10.1 Limited Geographical Coverage
This study was focused on exploring the nature of strategy process in SMEs in Singapore. Although the findings indicated the presence of a mixed approach to strategy comprising of both deliberate and emergent strategic approaches, these findings were specific to the Singaporean context. The findings were limited in terms of generalisability to other countries in Asia as well as the rest of the world due to cultural implications. Furthermore,
Singapore is a country that has witnessed significant economic growth and development over the past few decades and is seen as a highly Westernised economy (It's Singapore vs the World, 2015; Yew, 2012; Zhang, 2002). In addition to culture, the transferring of the findings of this study to other Asian economies was further limited by the disparity in development standards across Asian economies. This study was thus limited by its lack of comparison with strategy processes in SMEs in other Western and Asian economies.

8.10.2 Cross-Sectional Study
The study was cross-sectional study with data about Singapore SMEs collected over a specific point in time (Sekaran & Bougie, 2009). While such an approach was useful in understanding the nature of strategy processes in Singapore SMEs at a point in time, the study was limited in its capacity to assess trends in the variables measured over time, as would have been possible with the use of a longitudinal study where data about organisations are collected over a period of time (Cavana et al., 2001). Longitudinal studies have the capacity to study change and development over a specified period of time and offer powerful insights into developments (Adams & Schvaneveldt, 1991; Lewis et al., 2007). This study was thus limited in not being able to study the developments in the strategy process of Singapore SMEs over a period of time for future research.

8.10.3 Single Respondent
Single respondents from a number of Singapore SMEs were used in this study to gather data and subsequently investigate the nature of strategy processes prevalent in Singapore SMEs. The use of a single respondent as a source of information pertaining to the strategy development process has been questioned by a number of researchers (Bailey & Johnson, 2001). It has been argued that a single individual, even the CEO, cannot be assumed to be able to accurately judge all components of strategy in an organisation (Bailey & Johnson, 2001). While this is true, the findings of this study did indicate that many a times, the owners were in consultations with partners, staff, consultants and others in the decision-making process. Ireland et al., (1987) concurred that strategic decision processes varied by the managers’ level in the organisation. Managers at different levels had distinctly different perceptions of the organisation’s strengths and weaknesses and of environmental uncertainty (Hitt & Tyler, 1991). This study was thus limited by not including multiple respondents from an organisation to provide a deeper insight into the strategy process in Singapore SMEs.
8.10.4 Self-Report Bias

Self-report measures were used to elicit information about the strategy process in Singapore SMEs. Self-report measures have biases such as falsification and social conformity (Cavana et al., 2001). Furthermore, the small business owner often views his business as an extension of his/her personality intricately bound with family needs, relationships, and desires (d'Amboise & Muldowney, 1988). Though objective data are generally difficult to obtain from small businesses (Covin & Slevin, 1989), future research efforts may want to design or use objective data to encourage confidence in the reported analysis. Executives cannot always recall the details of complex decision processes and may tend to reconstruct events in a way that makes the processes seem more purposeful and logical then they were (Schwenk, 1995). Furthermore, in the often hectic pace of organisational life where decisions are interconnected and numerous activities are occurring simultaneously (Mintzberg, 1973), executives may not be able to reconstruct their past thoughts and identify the influences on them. Furthermore, during the quantitative phase of this study, it is possible that respondents may have not fully clearly understood some of the questions in the survey instrument. Additionally, the distribution of the questionnaires was undertaken during the period just before or after the break of the respective training workshops that the respondents were attending. It may have thus been possible that respondents were pressed for time to complete the questionnaire that may have led to potential inaccuracies, which presented another possible limitation of this study.

8.10.5 Sample Bias Towards Training

Some of the respondents for this study were selected from lists comprising of participants who had signed up for SME development workshops in Singapore. Given that these respondents had willingly signed up for training programmes indicated that they may have a preference for a more deliberate approach to strategy as most training programmes focus on a more formal approach to business strategy (Harris et al., 2000; Wiesner & Millett, 2012). Consequently, there was a possibility that this study did not include SME practitioners with preferences for more emergent approaches to strategy. However, the findings did indicate that Singapore SMEs adopted both a deliberate as well as emergent strategic approaches.

8.10.6 Limited Resources

Given that this study was undertaken to fulfill the requirements of a PhD thesis, the researcher was severely restricted in terms of both time and resource constraints. Access
to SME databases was prohibited by costs as was postage costs for postal surveys. This was considered but not adopted. The resource constraints inherent in this study further contributed to the use of a small sample size for both phases of the study. The use of a small sample for the quantitative phase restricted the reliability and generalisability of the findings to the population. The small sample size for the qualitative study also restricted the depth of data collected that would otherwise have enabled a better understanding of the strategy process in Singapore SMEs.

Although the aforementioned limitations do not deviate from what have been deemed to be acceptable boundaries in prior research, nonetheless the results of this study must be interpreted in light of these limitations.

8.11 Recommendations for Future Research

This study has researched strategic approaches used in Singapore SMEs through the adoption of both quantitative and qualitative research methods. It has provided an initial understanding of the nature of strategy process in Singapore SMEs. In order to confirm and investigate these findings, future research is required. This section discusses possible future directions of possible further research.

8.11.1 Broaden Geographical Coverage

Future studies could include investigating the strategy process in SMEs in other Asian countries. Comparisons could be done to investigate if the approach to strategy processes in SMEs of other highly developed economies such as Hong Kong, Japan and Korea are similar to the strategy processes found to be prevalent in Singapore SMEs. Alternatively, future studies can also explore if the strategy process of SMEs in neighboring countries and close trading partners of Singapore, such as Malaysia and Indonesia, are similar to the findings of this study.

8.11.2 Longitudinal Studies

Future studies could involve the use of longitudinal studies, for example over a decade, to understand how strategy develops and changes in Singapore SMEs over an extended period of time. Researchers would thus be able to observe how factors such as growth in the SMEs and environmental changes surrounding the SMEs impact on the overall strategy process in SMEs. This might include the ‘transitional’ period from small-sized to medium-sized growth amongst Singapore SMEs.
8.11.3 Multiple-Respondents
To gain a fuller understanding of the process of strategy development and reduce the potential for bias due to a reliance on a single viewpoint, multiple respondents with a detailed knowledge of the strategy development process could be used in future research (Bailey & Johnson, 2001). Multiple respondents from the same organisation would enable firm validation of the study scales (Brews & Hunt, 1999) and provide a more accurate view of how strategy is perceived within the various levels of the organisation.

8.11.4 Case Studies
In order to overcome the limitation of self-report bias, follow-up case study work could be included in future studies to enhance the interpretation of the findings (Verreynne, 2005). The use of such case studies would enable the better and much more in-depth understanding of how the strategy making process is executed in SMEs.

8.11.5 Larger Sample Size
Although the sample sizes used for both the quantitative and qualitative phases of this study met with the requirements of the statistical tools used in the quantitative study and the minimum number for the qualitative study, future studies could include a larger sample size. A larger sample size for the quantitative phase, of more than 1000 respondents, and for the qualitative phase, of more than 20 interviewees, will help improve the reliability of the findings.

8.11.6 Incorporation of All Schools of Thought
Although Mintzberg et al. (1998) posited ten schools of thought in describing the concept of strategy, only four schools of thought were adopted for this study. This research only considered the planning school, the design school, the positioning school and the learning school. Future studies could thus incorporate all ten schools of thought to see how they influence the strategy process in the SMEs under study.

8.11.7 Additional Measures
Future studies could investigate how variables such as the characteristics of the SME owner-directors, such as age and educational qualifications, impact on the actual strategic approach chosen and employed in Singapore SMEs, as the role of the owner is critical to the growth and strategy of SMEs (Berry, 1998; Mazzarol & Reboud, 2006). Furthermore, future studies could also investigate if the strategy processes in SMEs differ when run by owners and when run by a management team. In addition to SME owner-director
characteristics, future studies could also explore if the age of the SME influences the strategy process adopted in that organisation and if the use of strategic plans impact on organisational performance. Additionally, future studies could also investigate how the aspects of the strategy process as discussed in Section 3.4.6, impact on organisational performance. Finally, as the concept of a mixed-SDMP was one of the findings of this study, further studies might shed light on the SDMP-performance relationship by creating a uni-dimensional construct for mixed-SDMP and measuring that as a mediator.

8.11.8 Moderator-Mediator Modelling Approach
Future research on the use of moderator-mediator modelling approach to understanding how Singapore SMEs perform in the context of mediating and moderating relationships among entrepreneurial orientation, managerial competence, and environment forces will prove to be fruitful in its findings that provide not only higher scholastic values to the academic community but also strategic solutions for the current research problems facing SME entrepreneurs, owner-managers, professional executives, consultants, and policy makers in Singapore. In this regards, using structural equation modelling (SEM) as data analytical software will be more appropriate than SPSS to test the validity and reliability of future data collected for the study of this nature.

8.12 Summary
In conclusion, this chapter provided an overview of the strategy process in Singapore SMEs by drawing upon the key findings of this study. It was established through the findings of this study that Singapore SMEs adopted a mixed approach comprising of both deliberate and emergent strategies in their strategy process. The key limitations of this study included the sole focus on Singapore SMEs, the cross-sectional nature of this study, the use of self-reports, potential biases towards training in the samples used and time and budget restrictions. In terms of directions for future research, it was suggested that future studies included several countries, be longitudinal, involve multiple-respondents, use case studies, and involve a larger sample size and more measures.
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Appendix 1: Courtesy Letter

6 March 2014

Participant Information Sheet

Dear Sir/Madam

My name is A Anand Naidu (Mr.) and I am a PhD research student at the University of Western Australia. I am currently conducting a study examining the strategy process within Singapore SMEs. My supervisor is Winthrop Professor Gary J. Stockport and he researches and teaches in the area of Strategic Management. The title of my research project is:

"Examining the Relationship between Entrepreneurial Orientation, the Strategic Decision-Making Process and Firm Performance: A Study of Singapore SMEs".

You have been identified to participate in this research as you are listed as a top 1000 SME in the DP Information Group 81000 and SME1000 (2015) Directory.

Just to let you know as a professional courtesy, you will be receiving a questionnaire via mail within the next 7-10 days. It would be greatly appreciated if someone from the senior management (Owner/CEO/Director or similar) of your esteemed organisation completes the questionnaire and returns it in the stamped and addressed envelope provided within 2 weeks of receiving the questionnaire.

Your kind participation in this research will contribute immensely towards this important study and I would like to express my heartfelt appreciation to you. Should you have any questions relating to this study, kindly contact me at (+65) 98777070 or email me at anand.naidu@research.uwa.edu.au

Please note, participation is strictly voluntary and all information gathered from this study will be kept strictly confidential. Published data will utilise only aggregated information without the name or affiliation of you or your organisation.

I would deeply appreciate your help and support through the completion of the questionnaire. Thank you.

A Anand Naidu

Approval to conduct this research has been provided by The University of Western Australia, in accordance with its ethics review and approval procedures. Any person considering participation in this research project, or agreeing to participate, may raise any questions or issues with the researchers at any time.

In addition, any person not satisfied with the response of researchers may raise ethics issues or concerns, and may make any complaints about this research project by contacting the Human Research Ethics Office at The University of Western Australia on (08) 6486 3723 or by emailing to hrco-research@uwa.edu.au

All research participants are entitled to retain a copy of any Participant Information Sheet and Participant Consent Form relating to this research project.
Appendix 2: Participant Information Sheet (PIS) (Postal Survey)

13 March 2015

Participant Information Sheet

Dear Sir/Madam

Examining the Relationship between Entrepreneurial Orientation, the Strategic Decision-Making Process and Firm Performance – A Study of Singapore SMEs.

My student, A Anand Naidu (Mr.), is currently undertaking a Doctorate in Philosophy (PhD) qualification at the University of Western Australia. As part of the doctorate requirements, he is conducting a study examining the strategy process within Singapore SMEs.

You are invited to participate in this study. Your contact details were sourced from the DP Information Group S1000 and SME1000 (2015) directory. Your co-operation in filling out this questionnaire is vital for the completion of this study. Participation is strictly voluntary and you may choose to skip questions or stop filling out the questionnaire at any point in time without the need to provide any reason or justification. Stop at any point in time without the need to provide any reason or justification. All information gathered from this study will be kept strictly confidential. Published data will utilise only aggregated information without the name or affiliation of you or your organisation. Please return the completed questionnaire in the stamped and addressed envelope provided before 1st April 2015.

Your kind participation in this research is an indication of your consent to contribute towards this important study and we would like to express our heartfelt appreciation to you. Completion of this questionnaire is considered evidence of consent to participate in the study.

Should you have any questions relating to this study, kindly contact Anand at (65) 98777070, (61) 0404114977 or email him at anand.naidu@research.uwa.edu.au. Alternatively, you may feel free to contact me at any point in time.

Thank You.

Winthrop Professor Gery J. Stockport

Approval to conduct this research has been provided by The University of Western Australia, in accordance with its ethics review and approval procedures. Any person considering participation in this research project, or agreeing to participate, may raise any questions or issues with the researchers at any time.

In addition, any person not satisfied with the response of researchers may raise ethics issues or concerns, and may make any complaints about this research project by contacting the Human Research Ethics Office at The University of Western Australia on (08) 6488 3793 or by emailing to hrao.research@uwa.edu.au

All research participants are entitled to retain a copy of any Participant Information Sheet and/or Participant Consent Form relating to this research project.
Appendix 3 : Participant Consent Form (PCF)

13 March 2015

Participant Consent Form

Dear Sir/Madam

I have read the information provided and any questions I have asked have been answered to my satisfaction. I agree to participate in this activity, realising that I may withdraw at any time without reason and without prejudice.

I understand that all identifiable (attributable) information that I provide is treated as strictly confidential and will not be released by the investigator in any form that may identify me. The only exception to this principle of confidentiality is if the documents are required by law.

I have been advised as to what data is being collected, the purpose for collecting the data, and what will be done with the data upon completion of the research.

I agree that research data gathered for the study may be published provided my name or other identifying information is not used.

Participant ___________________________ Date ____________

Approval to conduct this research has been provided by The University of Western Australia, in accordance with its ethics review and approval procedures. Any person considering participation in this research project, or agreeing to participate, may raise any questions or issues with the researchers at any time.

In addition, any person not satisfied with the response of researchers may raise ethics issues or concerns, and may make any complaints about this research project by contacting the Human Research Ethics Office at The University of Western Australia on (08) 6488 3703 or by emailing to hrco-research@uwa.edu.au

All research participants are entitled to retain a copy of any Participant Information Sheet and/or Participant Consent Form relating to this research project.
Appendix 4: Reminder Letter

3 April 2015

Participation in Research Study

Dear Sir/Madam

Last week, a questionnaire was sent to your organisation requesting for your participation in my research study. I would like to thank you for your efforts and express my appreciation for completing and returning the questionnaires.

If you have not received the questionnaire, you will be receiving it within the next 2 weeks. It will be greatly appreciated if you could return the completed questionnaire within 2 weeks of you receiving it.

Your kind participation in this research will contribute immensely towards this important study. Should you have any questions relating to this study, kindly contact me at (+65) 96777070 or email me at anand.naidu@research.uwa.edu.au

Thank you.

Anand Naidu
Appendix 5: Participant Information Sheet (PIS) (Workshops)

Participant Information Sheet

Dear Sir/Madam

Examining the Relationship between Entrepreneurial Orientation, the Strategic Decision-Making Process and Firm Performance – A Study of Singapore SMEs.

My student, A Anand Naidu (Mr.), is currently undertaking a Doctorate in Philosophy (PhD) qualification at the University of Western Australia. As part of the doctorate requirements, he is conducting a study examining the strategy process within Singapore SMEs.

You are invited to participate in this study. You are invited due to your attendance in this Corporate Workshop. Your co-operation in filling out this questionnaire is vital for the completion of this study. Participation is strictly voluntary and you may choose to skip questions or stop filling out the questionnaire at any point in time without the need to provide any reason or justification. stop at any point in time without the need to provide any reason or justification. All information gathered from this study will be kept strictly confidential. Published data will utilise only aggregated information without the name or affiliation of you or your organisation. Please return the completed questionnaire to the researcher once you are done.

Your kind participation in this research is an indication of your consent to contribute towards this important study and we would like to express our heartfelt appreciation to you. Completion of this questionnaire is considered evidence of consent to participate in the study.

Should you have any questions relating to this study, kindly contact Anand at (65) 96777070, (65) 0404114977 or email him at anand.naidu@research.uwa.edu.au. Alternatively, you may feel free to contact me at any point in time.

Thank You.

Winthrop Professor Gary J. Stockport

Approval to conduct this research has been provided by The University of Western Australia, in accordance with its ethics review and approval procedures. Any person considering participation in this research project, or agreeing to participate, may raise any questions or issues with the researchers at any time.

In addition, any person not satisfied with the response of researchers may raise ethics issues or concerns, and may make any complaints about this research project by contacting the Human Research Ethics Office at The University of Western Australia on (08) 6488 3703 or by emailing to etho.research@uwa.edu.au.

All research participants are entitled to retain a copy of any Participant Information Sheet and/or Participant Consent Form relating to this research project.
Appendix 6: Summary of Feedback

<table>
<thead>
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<th>Respondent</th>
<th>Question</th>
<th>Recommended Changes / Comments</th>
<th>Recommendations Adopted</th>
<th>Justification for Recommendations Not Adopted</th>
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</thead>
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<td>3</td>
<td>1.2</td>
<td>Commented on not knowing where to tick for each question.</td>
<td>Ensured that the tick boxes provided for each question were made bigger.</td>
<td>-</td>
</tr>
<tr>
<td>4</td>
<td>4</td>
<td>Commented that the options in this section appeared to be cluttered.</td>
<td>Alternate options were shaded so as to ensure that there was a clear distinction between each option.</td>
<td>-</td>
</tr>
<tr>
<td>5</td>
<td>-</td>
<td>No comments</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>6</td>
<td>-</td>
<td>No comments</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>6</td>
<td>Introduction</td>
<td>Identified that the word ‘organisation’ was misspelt. Commented that the structure was wrong in the sentence “When answering this questionnaire, it may prove helpful to think about the three or four most important strategic decisions your organisation, made in the past few years”.</td>
<td>Corrected the word that was misspelt.</td>
<td>Context of the sentence was found and deemed to be correct.</td>
</tr>
<tr>
<td>7</td>
<td>2.2</td>
<td>Commented there was no need for the “Tick the most appropriate box” instruction for this question.</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>8*</td>
<td>-</td>
<td>No comments</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>9</td>
<td>-</td>
<td>No comments</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>10</td>
<td>-</td>
<td>No comments</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>11</td>
<td>3</td>
<td>Commented that the options “We evaluate potential strategic options against explicit strategic objectives” needed to be simpler.</td>
<td>The option “We evaluate potential strategic options against explicitly stated and detailed strategic objectives” was changed to “We evaluate potential strategic options against clearly stated and detailed strategic objectives”.</td>
<td>The other respondents found the option “We keep early commitment to a strategy tentative and subject to review” clear to understand and answered accordingly.</td>
</tr>
<tr>
<td>12</td>
<td>2.2</td>
<td>Commented there was no need for the “Tick the</td>
<td>Corrected the word that was misspelt.</td>
<td>-</td>
</tr>
</tbody>
</table>
Most appropriate box instruction here.

<table>
<thead>
<tr>
<th></th>
<th>Cover Page</th>
<th>Suggested changing the sentence in the cover page to “Your time and effort in completing this questionnaire is deeply appreciated”.</th>
<th>Sentence changed as advised.</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>13</td>
<td>Introduction</td>
<td>Identified that the word “organisation” was misspelt.</td>
<td>Corrected the word that was misspelt.</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Commented that the options in this section appeared to be cluttered and suggested providing options for a single sentence instead.</td>
<td>Alternate options were shaded so as to ensure that there was a clear distinction between each option.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Indicated that the meaning to the word “obsolescence” was unclear.</td>
<td>-</td>
<td>Options provided based on measurement scale used in previous studies and deemed to be clear.</td>
<td></td>
</tr>
</tbody>
</table>

* This response was unusable as the respondent had indicated NA (Not Applicable) for most of the questions asked.
** Comment was provided verbally to the researcher.
Examining the Relationship between Entrepreneurial Orientation, the Strategic Decision-Making Process and Organisational Performance: A Study of Singapore SMEs

- The purpose of this questionnaire is to investigate the relationship between the entrepreneurial orientation, strategic decision-making process and organisational performance within small and medium-sized enterprises (SMEs) in Singapore.

- It is estimated that this questionnaire will take around 20-25 minutes to complete.

- Your time and effort in completing this questionnaire is deeply appreciated. It will help to enable a better understanding of SMEs in Singapore.

Do you wish to receive any feedback?  

Yes  ☐  No  ☐

Note: The data gathered from this questionnaire will be treated with the strictest confidentiality. The intention is to compile and present the findings in summary form without the name and/or affiliation of the respondent.
Introduction

This questionnaire is designed to investigate and gain a better understanding of the relationship between the entrepreneurial orientation, strategic decision-making process and organisational performance within small and medium-sized enterprises (SMEs) in Singapore. This questionnaire further investigates the impact of the external environment on organisational performance.

In your capacity as the owner/senior director of your organisation, you are the best person to provide a clear picture of the strategic decision-making process within your organisation as well as provide valuable insights into the entrepreneurial orientation of your organisation, organisational performance and the impact of environmental factors on your organisation. When answering this questionnaire, it may prove helpful to think about the three or four most important strategic decisions your organisation made in the past few years. Examples of these types of decisions could include developing and introducing a new product/service, entering a new geographic market, making significant investments in new technologies, acquiring or disposing of key assets, or developing a new marketing or competitive strategy. There are no correct or incorrect answers in this questionnaire, so please respond to the following questions freely and honestly by describing the strategic practices as you feel they truly exist in your organisation, not as you believe they should exist. All responses will be kept strictly confidential. Only the researchers will have access to the information you provide. In order to ensure the utmost privacy, the completed questionnaires will not be made available to anyone other than the researcher.

Thank you for your time and cooperation. Participation in this survey is voluntary. The help of your organisation and yourself in furthering this research endeavor is greatly appreciated.

Section 1: Company Background

This section asks some questions about your organisation. Please answer Questions 1.1 to 1.4 to provide some background information about your organisation.

1.1 In which year was your organisation founded?

1.2 Currently, what is the total number of full-time employees in your organisation? (Tick the most appropriate box)

- Less than 20
- 20 – 100
- 101 – 200
- More than 200

1.3 Which of the following best describes your organisation? (Tick the most appropriate box)

- Sole Proprietorship
- Partnership
- Limited Liability Partnership
- Private Limited
- Other (please specify):

1.4 Which sector does your organisation belong to? (Tick the most appropriate box)

- Manufacturing
- Services

Section 2: Personal Information

This section asks questions about your personal data. Please answer Questions 2.1 to 2.4 to provide some background information about yourself.

2.1 What is your current job title? (Tick the most appropriate box)

- Sole-Owner
- Part-Owner
- Chief Executive Officer
- Managing Director
- Executive Director
- Other (please specify):

2.2 What is your gender? (Tick the most appropriate box)

- Male
- Female

2.3 What is your current age? (Tick the most appropriate box)

- Less than 30 years old
- 30-39 years old
- 40-49 years old
- 50-59 years old
- 60 years and above

2.4 What is your highest educational qualification? (Tick the most appropriate box)

- Primary Education
- Secondary Education
- College (A’ Levels)
- Polytechnic Diploma
- Bachelor Degree
- Masters Degree
- Doctoral Qualification
- Other (please specify):
### Section 3: Strategy in your Organisation

This section asks questions about the Strategic Decision-Making Process within your organisation. The Strategic Decision-Making Process involves the activities of goal formulation, problem identification, alternatives generation, and evaluation/selection. Please describe the Strategic Decision-Making Process in your organisation by answering question 3.

3. Which of the following best describes the strategy process in your organisation? *(Please indicate how strongly you disagree or agree with each statement by circling the most appropriate number on a scale from 1 to 7)*

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly Disagree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Our strategy is made explicit in the form of precise plans</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>Our strategy develops through a process of ongoing adjustment</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>When we formulate a strategy, it is planned in detail</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>Our strategy is continually adjusted as changes occur in the market place</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>We have precise procedures for achieving strategic objectives</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>To keep in line with our business environment, we make continual small-scale changes to our strategy</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>We have well-defined planning procedures to search for solutions to strategic problems</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>Our strategies emerge gradually as we respond to the need to change</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>We meticulously assess many alternatives when deciding on a strategy</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>We keep early commitment to a strategy tentative and subject to review</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>We evaluate potential strategic options against clearly stated and detailed strategic objectives</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>We have definite and precise strategic objectives</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>We make strategic decisions based on a systematic analysis of our business environment</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>We tend to develop strategy by experimenting and trying new approaches in the market place</td>
<td>1</td>
<td>7</td>
</tr>
</tbody>
</table>

### Section 4: Entrepreneurial Orientation of your Organisation

This section asks questions about the Entrepreneurial Orientation of your organisation. Entrepreneurial Orientation is defined as the tendency of organisations to act autonomously, be proactive and innovative, take risks and be aggressive towards competitors relative to marketplace opportunities. Please indicate the extent of the Entrepreneurial Orientation of your organisation by circling the most appropriate number on a scale from 1 to 7 for questions 4.1 – 4.4. Selecting a 1 indicates a complete agreement with the statement on the left hand side of the scale, selecting a 7 indicates complete agreement with the statement on the right hand side of the scale, and selecting a 4 indicates neutrality.

4.1 In dealing with its competitors, my organisation:

<table>
<thead>
<tr>
<th>Statement</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Is very aggressive and intensely competitive to take business from the competition</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>Makes no special effort to take business from the competition</td>
</tr>
<tr>
<td>Typically responds to actions which competitors initiate</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>Typically initiates actions to which competitors then respond</td>
</tr>
<tr>
<td>Is very seldom the first business to introduce new products/services, administrative techniques, operating technologies, etc.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>Is very often the first business to introduce new products/services, administrative techniques, operating technologies, etc.</td>
</tr>
<tr>
<td>Typically seeks to avoid competitive clashes, preferring a “live-and-let-live” posture.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>Typically adopts a very competitive, “undo-the-competitors” posture</td>
</tr>
</tbody>
</table>
4.2 In general, the top managers of my organisation favour:

| A strong emphasis on the marketing of tried-and-true products or service | 1 | 2 | 3 | 4 | 5 | 6 | 7 | A strong emphasis on R&D, technological leadership, and innovations |
| Experimentation and original approaches to problem solving | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Imitating methods that other organisations have used for solving their problems |
| A strong tendency to “follow the leader” in introducing new products or ideas | 1 | 2 | 3 | 4 | 5 | 6 | 7 | A strong tendency to be ahead of other competitors in introducing novel ideas or products |
| Exploring the environment gradually via cautious, incremental behaviour in achieving the organisation’s objectives due to the nature of the environment | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Using bold, wide-ranging acts in achieving the organisation’s objectives due to the nature of the environment |
| A strong preference for low-risk projects (with normal and certain rates of return) | 1 | 2 | 3 | 4 | 5 | 6 | 7 | A strong preference for high-risk projects (with chances of very high returns) |
| Studying a problem thoroughly before deploying resources to solve it | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Being quick to spend money on potential solutions if problems are holding us back |
| Allowing individuals and/or teams to decide for themselves what business opportunities to pursue for best results | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Allowing the CEO and top managers to provide the primary impetus for pursuing business opportunities |

4.3 In my organisation:

| No new products or services have been marketed in the past five years (or since the organisation’s establishment) | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Very many new products or services have been marketed in the past five years (or since the organisation’s establishment) |
| Changes in products or services have been mostly of a minor nature | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Changes in products or services have usually been quite dramatic |
| There is a preference to design our own unique new processes and methods of operations | 1 | 2 | 3 | 4 | 5 | 6 | 7 | There is a preference to adopt methods and techniques that others have developed and proven |
| There is support for the efforts of individuals and/or teams that work autonomously | 1 | 2 | 3 | 4 | 5 | 6 | 7 | There is support for the idea of requiring individuals and/or teams to rely on senior managers to guide their work |
| Individuals and/or teams pursuing business opportunities make decisions on their own without constantly referring to their supervisors | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Individuals and/or teams pursuing business opportunities have to obtain approval from their supervisors before making decisions |
| The CEO and top management team play a major role in identifying and selecting the entrepreneurial opportunities my organisation pursues | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Employee initiatives and inputs play a major role in identifying and selecting the entrepreneurial opportunities my organisation pursues |

4.4 When confronted with decision-making situations involving uncertainty, my organisation:

| Typically adopts a cautious, “wait-and-see” posture in order to minimise the probability of making costly decisions | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Typically adopts a bold, aggressive posture in order to maximise the probability of exploiting potential opportunities |
Section 5: The Impact of the Environment on your Organisation

This section asks questions about the impact of the Environment on your organisation. The Environment of an organisation is composed of all the forces external to the organisation that directly or indirectly influence its operations and that, in turn, may be influenced by the organisation. Please rate the impact of the Environment on your organisation by circling the most appropriate number on a scale from 1 to 7 for questions 5.1 – 5.3. Selecting a 1 indicates a complete agreement with the statement on the left hand side of the scale, selecting a 7 indicates complete agreement with the statement on the right hand side of the scale, and selecting a 4 indicates neutrality.

5.1 In terms of the environment:

<table>
<thead>
<tr>
<th>Description</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Our organisation must rarely (e.g. every five years) change its marketing practices to keep up with the market and competitors.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The rate at which products/services are getting obsolete in the industry is very slow (e.g. every five years)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Actions of competitors are quite easy to predict.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Demand and consumer tastes are easy to forecast.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The production/service technology is not subject to very much change and is well established.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The environment causes a great deal of threat to the survival of our organisation.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>We are a very undiversified organisation and cater to the same buyers.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Our organisation must change its marketing practices extremely frequently (e.g. semi-annually)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The rate of obsolescence is very high (e.g. less than a year).</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Actions of competitors are unpredictable.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Demand and tastes are unpredictable.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The modes of production/service change often and in a major way.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>There is very little threat to survival.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>We are highly diversified and operate in unrelated industries.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

5.2 Are there great differences amongst the product(s)/service(s) you offer with regard to:

<table>
<thead>
<tr>
<th>Description</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Customer’s buying habits</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nature of the competition</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Market dynamism and uncertainty</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

5.3 How severe are the following challenges to your organisation?

<table>
<thead>
<tr>
<th>Description</th>
<th>This is not a great threat</th>
<th>This is a very substantial threat</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tough price competition</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>Competition in product quality or novelty</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>Dwindling markets for products</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>Scarce supply of labour/materials</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>Government interference</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
</tbody>
</table>
Section 6: Performance

This section asks questions about the Performance of your organisation. Performance relates to the success within and across organisations and it is essential to accurately describe performance to effectively measure it. Please rate the Performance of your organisation by answering questions 6.1 and 6.2.

6.1 This question considers various performance benchmarks for organisations. For each performance measure identified below, tick the most appropriate box that best describes how your organisation currently compares to its competitors in its main business.

For example: Amongst competing organisations in the same business, there will be companies who are average performers, below average performers and above average performers. If you believe that your organisation is among the above average performers in the 60-79% range, tick the appropriate box.

<table>
<thead>
<tr>
<th>Performance Measures</th>
<th>Below 0-19%</th>
<th>20-39%</th>
<th>40-59%</th>
<th>60-79%</th>
<th>80-100%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall profitability</td>
<td>√</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

6.2 In your opinion, what do you believe contributed to your organisation’s performance as indicated above? (For example: focus on hiring the right staff, emphasis on the strategy process, increased productivity, higher capacity for risk and etc.)

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________
Section 7: Others

7.1 Do you have any other comments about the strategy decision-making process, entrepreneurial orientation, impact of the environment on your organisation and performance that you wish to add?

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

7.2 Please indicate whether you would be available to participate in an interview based upon your findings?

☐ Yes, I am interested to participate in an interview with the researcher. Please contact the following person to arrange for an appointment:

  My office contact person : ___________________________

  Telephone number : ___________________________

  Email address : ___________________________

☐ No, I am not available to participate in the interview

Your time and cooperation in completing this questionnaire is sincerely appreciated. Please check to make sure that you have not skipped any questions inadvertently.

Thank You for Completing this Questionnaire!
## Appendix 8: Feedback for Semi-Structured Interview Guide

<table>
<thead>
<tr>
<th>Section</th>
<th>Recommended Changes / Comments</th>
<th>Recommendations Adopted</th>
<th>Justification for Recommendations Not Adopted</th>
</tr>
</thead>
<tbody>
<tr>
<td>1   Further Comments on Questionnaire</td>
<td>This section required the interviewee to focus on at least three of the responses provided in the questionnaire. It also involved the probe for further depth on each of the responses by asking “Can you please elaborate on your response(s) to this question…” type questions. It was recommended by the interviewee that this section be omitted, as it was difficult for the interviewee to recall both the questions and answers as provided in the questionnaire. Furthermore, it was concluded that too much time would be taken up going through the questionnaire responses and prompting.</td>
<td>In view of this, this section was omitted. Instead, the interviewee will be asked if he/she remembers the questionnaire that was filled out recently and will then be led to the remaining sections, which will be explained as being an expansion to the answers provided in the questionnaire.</td>
<td>-</td>
</tr>
<tr>
<td>2   Important Strategic Decisions and the Strategy Process</td>
<td>No changes required.</td>
<td></td>
<td>-</td>
</tr>
<tr>
<td>3   Entrepreneurial Orientation of Your Organisation</td>
<td>No changes required.</td>
<td></td>
<td>-</td>
</tr>
<tr>
<td>4   Environment</td>
<td>No changes required.</td>
<td></td>
<td>-</td>
</tr>
</tbody>
</table>
| 5   Organisational Performance             | This section was deemed to be too lengthy. It was suggested by the interviewee that the following questions were inter-linked and therefore resulted in the repetition of the same points for these questions:  
  - How frequently does your organisation deliver your product(s)/service(s) on time to your customers? Please elaborate.  
  - Could you tell me the number of compliments as well as complaints you received from your customers over the past twelve months? | This section was shortened by asking only the following question:  
  - How frequently does your organisation deliver your product(s)/service(s) on time to your customers? Please elaborate.  
  However, if the answers provided by the interviewee is not elaborate, the following questions can be asked for further probing:  
  - Could you tell me the number of compliments as well as complaints you received from your customers over the past | - |
• What kind of compliments and complaints does your organisation usually receive? Please can you give some examples.

Furthermore, the interview was to last 45 minutes to an hour. The pilot study revealed that even before the start of this section, the interview was already in excess of the hour mark. The interviewee had also expressed that the rest of the questions in the other sections were quite intensive and further indicated that he was tired.

• What kind of compliments and complaints does your organisation usually receive? Please can you give some examples.

• What do you do to retain your customers and achieve repeat orders?

twelve months?
Appendix 9: Semi-Structured Interview Guide

Examining the Relationship between Entrepreneurial Orientation, the Strategic Decision-Making Process and Organisational Performance: A Study of Singapore SMEs

Semi-Structured Interview Guide

Opening / Introduction
- Thank interviewees for completing questionnaires and agreeing to be interviewed.
- Duration expected of the interview is around 45 minutes to an hour.
- Explain purpose of the interview to respondents. The purpose is to explore in greater depth some of the responses within the questionnaire.
- Request permission from the interviewee to:
  - (1) Record and / or
  - (2) Take notes during the interview.
- Explain that recordings will be deleted a day after the submission of the Thesis. Also explain that the recording would be de-identified, saved and password protected to ensure confidentiality. (If permission for recording is not given, then notes will be taken as best as possible based upon memory and written up directly after the interview).
- Explain that all data will be kept strictly confidential.
- Explain that the entire interview is voluntary and can be stopped at any time without the need to provide any form of justification.
- Sign ethics approval documentation.
- Explain that the interview will contain 5 parts:
  - Part 1: Further Comments on Questionnaire Responses
  - Part 2: Important Strategic Decisions and the Strategy Process
  - Part 3: Entrepreneurial Orientation of your organisation
  - Part 4: Environment
  - Part 5: Organisational Performance

Part 1: Further Comments on Questionnaire Responses
- Ask the interviewee if he/she remembers filling out the questionnaire recently.
- Inform the interviewee that the interview is to be based on the responses provided in the questionnaire.

Part 2: Important Strategic Decisions and the Strategy Process
- Define the strategic decision-making process as the activities of goal formulation, problem identification, alternatives generation, and evaluation/selection.
- Probe the interviewee on the strategic decision-making process within the organisation.
- Probe for response(s) through questions such as:
  - Does your organisation have a strategic plan? Define strategic plan as an organisational level action plan designed for a 3-5 year period directing the organisation toward the achievement of a long-term vision.
  - How are important strategic decisions made within your organisation? Would you like to discuss a specific example? For example, the start-up of your business or a growth initiative?
  - Who are the people involved in the strategic decision-making process in your organisation?
  - Are plans well defined within your organisation or do they emerge gradually? Kindly elaborate.
  - How has your strategy process evolved/ changed over time?
  - Overall, would you best describe the strategic decision-making process in your organisation as being planned and/or emergent? Define deliberate strategy as a rational process of formulation followed by implementation. Define emergent strategy as developing inadvertently, without the conscious intention of senior management, often through a process of learning.
  - Do you have any other comments about your strategy process that you wish to add?
Part 3: Entrepreneurial Orientation of Your Organisation

- Probe the interviewee on the entrepreneurial orientation of the organisation.
- Define EO as the propensity of organisations to act autonomously, a willingness to innovate and take risks, and a tendency to be aggressive toward competitors and proactive relative to marketplace opportunities.
- Probe for response(s) through questions such as:

**Innovation:**
- Define innovation as an organisation’s tendency to engage in and support new ideas, novelty, experimentation and creative processes that may result in new products, services or technological processes.
  - Has your organisation marketed new products/services in the past 5 years? Please provide some examples.
  - Does your organisation identify potential new markets? Kindly elaborate how this is done.
  - How does your organisation deal with changes in market preferences?
  - Does your organisation seek and develop new knowledge? Kindly elaborate how this is done.

**Proactiveness:**
- Define proactiveness as an opportunity-seeking, forward-looking perspective involving introducing new products or services ahead of the competition and acting in anticipation of future demand to create change and shape the environment.
  - Does your organisation identify new business opportunities? Kindly explain how this is done.
  - How does your organisation respond to newly identified business opportunities?
  - Would you describe your organisation as being the first to introduce new products/services into the market? Kindly elaborate.

**Risk-Taking:**
- Define risk-taking as incurring heavy debt or making large resource commitments in the interest of obtaining high returns by seizing opportunities in the marketplace.
  - Does your organisation face uncertainties in your industry? Kindly provide examples of such uncertainties.
  - How does your organisation deal with such uncertainties?
  - Would you describe your organisation as being bold or risk-averse? Kindly provide examples to expand.

**Autonomy:**
- Define autonomy as the ability and will to be self-directed in the pursuit of opportunities where actions are taken free of stifling organisational constraints.
  - How does your organisation manage its employees? For example, is there a preference for the use of teams or individual work?
  - Do individuals or teams in your organisation decide how to do their work? Please explain.
  - Do individuals or teams in your organisation propose new ideas and proceed with them to completion? Please expand.
  - Do individuals or teams in your organisation pursue business opportunities and make decisions on their own without constantly referring to their supervisors? Please expand.

**Competitive Aggressiveness:**
- Define competitive aggressiveness as an organisation’s propensity to directly and intensely challenge its competitors to achieve entry or improve position, that is, to outperform industry rivals in the marketplace.
  - In most cases, does your organisation respond to actions that competitors initiate or do you initiate actions that competitors then respond to? Please provide examples.
  - How does your organisation respond to competitors’ actions?
  - Does your organisation have a very competitive undo-the-competitor posture?
Please provide examples.

- Do you think the entrepreneurial orientation of your organisation impacts on the strategic decision-making process within your organisation. Please explain.
- Do you have any other comments about the entrepreneurial orientation of your organisation that you wish to add?

Part 4: Environment
- Define the environment of an organisation as being composed of all the forces external to the organisation that directly or indirectly influence its operations and that in turn, may be influenced by the organisation.
- Probe for response(s) through questions such as:
  o Do you think the environment creates a significant threat or opportunity to your organisation’s survival?
  o What do you think are some of the key environmental forces that may impact upon your organisation’s success? Kindly explain.
- Probe the interviewee on the impact of the environment upon the organisation’s entrepreneurial orientation, strategic decision-making process and performance relationship.
  o Does the strategy decision-making process in your organisation change as the environment changes? Would you like to discuss a specific example?
  o Do you think the environment impacts on your organisation’s overall performance? If yes, how?
- Do you have any other comments about the impact of the environment on your organisation that you wish to add?

Part 5: Organisational Performance
- Define performance as relating to the success within and across organisations, and that it is essential to accurately describe performance to effectively measure it.
- Probe further comments from the interviewee by asking the following questions:
  o What are the key performance indicators (KPIs) that you use within your organisation?
  o Have your KPIs changed over time? If yes, how?
  o What is the most important thing you use in assessing how well the business is doing?
  o How do the sales of your products/services this year compare to previous years? Is the trend increasing or decreasing? What are the reason(s) for this?
  o How does your profit this year compare to previous years? Is the trend increasing or decreasing? What are the reason(s) for this?
  o How does the quality of customer service in your organisation this year compare with previous years? Is the trend increasing or decreasing? Please elaborate.
  o What do you do to retain your customers and achieve repeat orders?
  o In the event that the responses to the question on customer service lacks elaboration, the following questions can be asked:
    ▪ How frequently does your organisation deliver your product(s)/service(s) on time to your customers? Please elaborate.
    ▪ Could you tell me the number of compliments as well as complaints you received from your customers this year (2013-2014)?
    ▪ What kind of compliments and complaints does your organisation usually receive? Please can you give some examples.
  o What is the importance/link between your strategy process and performance?
  o Do you have any other comments about performance in your organisation that you wish to add?

Conclude Interview
- Inform interviewee that the interview is over. Is there anything else you would like to add that has not been covered in this interview so far?
- Thank the interviewee for their time.
- Ask the interviewee if he/she would like to receive a summary copy of all the interview findings? If yes, explain this will be sent after the Thesis is written and submitted.
- Follow up email/phone call to thank the interviewee.
Appendix 10: Participant Information Sheet (PIS) (Interviews)

Participant Information Sheet

Dear Sir/Madam

Examining the Relationship between Entrepreneurial Orientation, the Strategic Decision-Making Process and Firm Performance – A Study of Singapore SMEs.

My student, Anand Naidu (Mr.), is currently undertaking a Doctorate in Philosophy (PhD) qualification at the University of Western Australia. As part of the doctorate requirements, he is conducting a study examining the strategy process within Singapore SMEs.

You are invited to participate in an interview with Anand that should last between 45 minutes to an hour. You had indicated your willingness to participate in this interview in the questionnaire you filled out during the first phase of this study. With your permission, the interview will be audio recorded, which will either be securely deleted or offered to you upon completion of the research. The interview questions will focus on (1) some of your responses in the questionnaire you filled out in the first phase of this study, (2) important strategic decisions and the strategy process within your organisation, (3) entrepreneurial orientation of your organisation, (4) the impact of the environment on your organisation’s strategy process as well as (5) organisational performance. Participation is strictly voluntary and you may choose to stop at any point in time without the need to provide any reason or justification. All information gathered from this study will be kept strictly confidential. Published data will utilise only aggregated information without the name or affiliation of you or your organisation.

Your kind participation in this research is an indication of your consent to contribute towards this important study and we would like to express our heartfelt appreciation to you.

Should you have any questions relating to this study, kindly contact Anand at (65) 98777070, (65) 0404114977 or email him at anand.naidu@research.uwa.edu.au. Alternatively, you may feel free to contact me at any point in time.

Thank You.

Winthrop Professor Gary I. Stockport

Approval to conduct this research has been provided by The University of Western Australia, in accordance with its ethics review and approval procedures. Any person considering participation in this research project, or agreeing to participate, may raise any questions or issues with the researchers at any time.

In addition, any person not satisfied with the responses of researchers may raise ethics issues or concerns, and may make any complaints about this research project by contacting the Human Research Ethics Office at The University of Western Australia on (08) 6488 3703 or by emailing to hrpe-research@uwa.edu.au.

All research participants are entitled to retain a copy of any Participant Information Sheet and/or Participant Consent Form relating to this research project.
Appendix 11: Example of Transcript of Interviews (Interviewee 2)

Interviewer  Okay, so good evening Interviewee. First of all let me start by thanking you for agreeing to be interviewed.

Interviewee  No worries.

Interviewer  Ah, just to inform you this entire interview would last for between 45 minutes to an hour. So, thank you once again for your time. And basically, do you still remember the questionnaire that you did for me?

Interviewee  Yeah, roughly.

Interviewer  Yeah, so what I’m gonna do is basically I’m gonna just ask you further questions in line with the responses that you had given me in that questionnaire.

Interviewee  Okay.

Interviewer  Okay, so let’s just start off straight away in terms of this questionnaire – ah, this interview. Ah, basically there’s a five major parts for this interview. We’re gonna start off first by looking at some of the responses from your questionnaire.

Interviewee  All right.

Interviewer  And then after that what we will do is this is the major crux of the entire interview. Ah, we’re gonna look at some of the important strategic decisions and mainly the strategy process within your organization.

Interviewee  Okay.

Interviewer  That’s what I would like to study. And then I’m gonna as you a series of questions about the entrepreneurial orientation of your organization

Interviewee  Yeah.

Interviewer  Ah, perhaps you could also enlighten me in terms of how the environment impacts on your organization and last but not the least it would be just give me an indication of how you rate the performance within your organization. So, basically a lot of this stuff you’ve already given me answers for in the questionnaire.

Interviewee  Yes.

Interviewer  Just an expansion and elaboration on that. Okay, so let’s just go straight into it. Ah, let me start off by talking about the strategic decisions and strategy process within your organization. Ah, let’s define the concept first – strategic decision process is basically the activities of goal formulation, identifying problems, generating alternatives to solve that problem and of course choosing the strategy which you feel is the best to move your organization forward. Right?

Interviewee  Yeah.

Interviewer  Now, specific to your organization, how does the strategic decision making process take place within your organization?
Interviewee  I must say for me over here it is rather ad hoc.

Interviewer  Okay.

Interviewee  Because ah, as much as I would like it to be proactive, I find myself having to be rather reactive because we cater very much to the needs of our clients and those needs do change sometimes, not only dramatically but rather quickly. And then, and of course we have to react as quickly, so all those you know – all the best laid plans we have all get thrown out off the window and so we find ourselves having to react on a rather ad hoc basis.

Interviewer  Okay, thank you. Now you said that the – you know all these ad hoc plans sometimes you have to be thrown out off the window. So, let me just pick up on that, ah, does your organization have a strategic plan? Which is kind a like an organization level action plan designed for three to five year period, you know, telling me of your long term vision of the organization.

Interviewee  I wish we do but ahem we tried to do this but then we find owing to the nature of our needs of the customers so we decided not to. In fact, we’re lucky we can have anything – there is good to go for even just a year. So, that would not quite count as strategic, it’s ahem a mini strategic perhaps if you wanna say, it’s not three years.

Interviewer  Yeah, so.. Go ahead.

Interviewee  It’s a year it’s as far as we dare to take it, for us. Ahm, of course we are lucky that sometimes we get a customer who shares with us a little more and so, we then try to stretch that out a little bit. You know barring a change in terms of our customers and our clients direction, like we don’t have to like I said we chop the original plan up to.. and so for us, we don’t do that much strategic planning, not as much as we would like to.

Interviewer  Okay. So, your plans are pretty much constrained within a twelve month period?

Interviewee  Pretty much.

Interviewer  Because of the ever changing needs of your customers like you said?

Interviewee  Yeah.

Interviewer  Okay. Now, how does a – how is a typical strategic decision made within your organization? For example if you have growth initiative or you wanna enter new market or whatever, how do you go about making this decision? Just walk me through the entire process.

Interviewee  Again, very much for us, the starting point the trigger point would be the clients’ needs and depending on their needs over let’s say a six month period, nine, a year or so. Ah, and then based on what they require down the road, we would then adjust our plans so that we can cater to their needs. As opposed to, ahem we mapping out directions as to where we wanna go, what we want to achieve and then going out to achieve those. Ours is very much client driven ah.. decision making

Interviewer  Okay. Who exactly are the people who are involved in the strategic decision making process in your organization?
Interviewee: Ah, mainly and chiefly it would be me.

Interviewer: Okay.

Interviewee: Ahm, and yeah. Pretty much me.

Interviewer: Okay.

Interviewee: Ahm. I would not say that my other partners in the business would be able to chip in as much because I’m the one with the direct contact with the clients. So because of that, pretty much me.

Interviewer: Okay. And er you said that the previously you have tried to develop strategic plans and then you realized that you’re much better off with a 12 month window or limit. So, has your strategy process evolved, changed over the time, over this time or over the past recent years?

Interviewee: Ah, no. In fact it sort of stabilized over the last couple of years with this sort of a time frame. We find ourselves being able to be more to stay nimble that we can react a lot quicker. Ah, we didn’t have to spend that much effort to develop a long term... longer term plan, only to have it chopped up and chucked away. So, we decided to stick with this rolling thing. Much like how we roll our budgets, you know on a yearly basis.

Interviewer: Okay. Now, look when you talk about strategic decisions making process, the theory has it that it’s either deliberate or emergent. Deliberate basically means that it’s a rational process whereby you form the strategy and then implement it. Emergent basically means that the, well the changes over time that you do are eminent factors that happens and it’s often the process of learning. So, which do you think best describes the strategy process in your organization? Deliberate or emergent?

Interviewee: Emergent would be closer to it. Ahm, because in this business of ours, many factors besides just our clients’ needs is also the industry needs. And the industry needs and direction itself ahm, they do change over time. Of course causing our clients to react and then filtering down to us where we will then have to also meet our clients’ needs.

Interviewer: Okay.

Interviewee: So for that reason, certainly emergent will be a lot or much better fit.

Interviewer: Okay. Thank you so much for all of those inputs. Do you have any other comments about the strategy process within your organization that you would like to add?

Interviewee: Ah, it is not exactly like a very textbook you know - step 1, step 2 thing. Ah, reactive as I said earlier that would be the word, we can... But having said so, in most times whatever we plan for six months generally stay in place. Any changes that need to be made are minimal so we can sort of stick to the plan. And then those new needs will only be for the future six months, not the ones that we already planned. So, that has helped us quite a bit.

Interviewer: And all of this is as is formalized as it is all documented? Your six months or twelve months plan?
Interviewee: Yeah. The six months are, the twelve months, we tried to leave the latter six months a little freer because things do crop up and you know way beyond anybody’s control and all of which then we find ourselves sort of firefighting or reacting to the needs.

Interviewer: And your staff would be able to follow through with this directions as well as mapped out by you?

Interviewee: Oh yeah. Initially of course everybody struggled you know to kinda work in sync with our clients. But once we’ve gotten used to their needs, you know their patterns and everything else, I think so far, touch wood, with the last of couple of years have been fairly okay. Because the changes are minimum.

Interviewer: Okay, okay, thank you. So, the next part is we will be moving along to the entrepreneurial orientation of your organization. Now, basically what this term dictates is it talks about how organizations act autonomously, how they are willing to innovate, how they are willing to take risks, how aggressive they tend to be towards the competitors and how proactive they are relative to market place opportunities. So, I’m just gonna guide you through each of this elements of the entrepreneurial orientation of your organization, so that I’ll have a better idea of it.

Interviewee: Okay.

Interviewer: So, let’s start off first with innovation, which is basically an organization much like yourself, its tendency to engage in and support new ideas, novelty and you know experiment stuff. Perhaps engaging in some form of a creative process that might lead to newer products or in your case offering of better services or technological processes, all right? So, how about your organization, has it marketed like any new services within the past five years?

Interviewee: Ah, no. Not really new, we’ve tried to come up with a well you called it innovative but you know slight variations of our products but not all of them set down well with our clients you know ‘cause they wanted it done and again on their way. So, we, we tried to give our inputs and ah, but we don’t know how much of it was taken on board by our clients, you know when they made their decisions. Ahm, sometimes we see the efforts of our inputs but mostly no. So, again, this very reactive in what i do, what we do, because for us putting out our new product and then trying to roll it out and convince our customers, our clients to use that and ditch their old things, somehow it doesn’t quite work well with them you know, so, for us we don’t innovate so much.

Interviewer: So, would it be fair to say that you pretty much take your instructions per se from your clients in terms of their needs?

Interviewee: That would be correct.

Interviewer: So, that’s how it works, okay. And what about new markets? Have you guys identified any potential new markets?

Interviewee: The new markets are there but each customer has their sort of preferred supplier of service or subcontractor if you like that term and we tend to sort of work with the same people and in a sense it is good because it allows us to form some sort of stability and then we could plan for at least on a rolling year basis. Ahm, but to get new customers, it’s much harder in this market
becoming sort of saturated you know, it will or if not then only when somebody is not quite so pleased with their existing supply of service, do we stand a chance you know to get our foot into offer of what we have.

Interviewer So, you don’t actively seek out new markets?

Interviewee Ah, we do try but we can’t quite really push it.

Interviewer Okay.

Interviewee Yeah.

Interviewer Okay. And then what about changes in market preferences? Have you like identified any of this and if you have, how does your organization deal with this?

Interviewee This, this market is ahm, well I can’t say that it is not innovative in its own way, but the changes are not quantumly kind of a change. The changes are very subtle, you know it’s more like tweaking rather than totally brand new line of products or services. So, for that, the market preferences have remained largely the same over the last few years. So, there wasn’t really any need for anybody to... You know come up with anything new to offer to our customers.

Interviewer Okay. And what about developing new knowledge? Does your organization seek in developing new knowledge? And if this is done, would you just kindly elaborate.

Interviewee Well new knowledge, for us it would be like keeping up with the trends, ahm, you know events that happened around the world impacts on us locally, you know taking on board of those kind of changes and then trying to work our products and services to even provide a better fit to our customers. But ah, that is happening on very regular basis, yeah. Every few months, you know, we would get news from our clients that they want things done in a slightly different angle. Yeah and then we work that into our services as well. So, we do.

Interviewer And what about the training, development of your staff? Do you actively pursue new knowledge training in that sense for your staff?

Interviewee Well, the training wise is not the formal of kind of a classroom-textbook training. It almost like on-the-job training, you know, because different customers, different needs and we basically work as closely as possible with the customers and we constantly have to shape, and reshape on what we do and how we do so as to provide that best fit. So, those kind of training is really more on-the-job training, you know, than, than a very structured kind of a classroom, courses training.

Interviewer So, would it be fair to say based on what you have said, the management in your organization identifies certain changes and then when you deem it fit, you kinda communicate this to your staff so that they get that knowledge? Is that what you’re trying to say?

Interviewee That would be correct as well. And all of which the trigger comes from the customers.

Interviewer Okay. So, it always led by them?
Interviewee  Always led by them.

Interviewer  Okay. And moving on if we look at proactiveness, now this is basically defined as something which is in your organization you are opportunity seeking, or perhaps your organization is looking at some forward looking perspective involving again new products, new services. But this must be done ahead of the competition and anticipating future demand to create a change or perhaps shape the environment. So, does your organization identify new business opportunities?

Interviewee  Ah, we have seen some of the opportunities before, but for want of sufficient staff to take that on, we, at the moment just coping well enough with what we've got and we're not actively seeking out on those new areas because that would require a fair amount of resources for us to make that considered push to that level of proactiveness. For us, at the moment, we're coping well enough to keep the reactive part of it to a minimum and moving forward, of course hopefully with good growth we can then, you know, look towards taking on more new opportunities.

Interviewer  Okay. You keep on.. I mean you're using the term reactive, right? And not being proactive.

Interviewee  Yeah.

Interviewer  Is there anything which is kind of restraining you or preventing you from being more proactive?

Interviewee  Ah..

Interviewer  Because you did mention resources earlier.

Interviewee  Yes, it is so. And essentially that's the case, we don't have, ours is a very, very tailored kind of service where it's not a standard thing we roll out that can replicate, you know, in all corners. And that everybody would accept, and so, because of which we constantly have to refine our delivery of our services to the individual needs, and so, again it's about the reactive part of our business. How quickly we respond to the changing needs, how well do we meet our customers required level of service, and then keep to that level for as long as we can. And so that our customers do get what they seek from us. Ahm, and so it's very difficult in for us in our business, to be too proactive, you know, it's almost like, it's too much for our own good. It's what we think will be good for our customers may not be necessarily be what they have in mind. In fact, it might even go off tangent to their objectives and their own organizational goals, so, we always have to put ourselves on, sort of stand by for anytime the customers want something different, or the same thing but then in a different manner. And so, again we have to react to their needs.

Interviewer  Okay, thank you. And moving along, another important element of entrepreneurial orientation is this element of taking risks.

Interviewee  Yes, of course.

Interviewer  Now, risk obviously involves in getting perhaps heavy debts on making large resource commitments in the interest of, you know, seizing opportunities which would, you know, hopefully result in higher returns. So, what about your organization, does it face any particular form of uncertainties within your industry?
Interviewee Oh, yes. As with almost every industry, I believe those would encounter - the common ones encountered would be that of - the customers folding after the services have been provided. But before payment has been made to us.

Interviewer Okay.

Interviewee Nobody likes that, it’s one of worst news ever but we’ve had our own share of it as well. Ahm, sad to say it was painful, it remains forever etched in our memories. And so, therefore we, we – we’re not so risk adverse but we try to be very careful and cautious with whoever we work with because we’re very serious about providing good service but as well we’re very serious about being paid for our services.

Interviewer Okay.

Interviewee So, the risk taking part of it, ahm, we try to manage the risk by taking only those on board that we feel it is worth the effort to take. And thankfully so far, we have been quite all right.

Interviewer And apart from that, any other risk that your organization faces?

Interviewee Ah, the risk that we face of course would be somebody coming in offering what they claim to be as good as what we can offer and then our customers of course always free to make a switch, to give the other person a try. It happens everywhere, it’s just what we have to put up with and until it can be proven that somebody else can do it as well if not better than what we do and then there were so far we’re still all right, you know, at least we see, even as I speak with you now, for the next six months, yeah, we’re pretty okay. We hope that the picture will continue long, long may continue for the years to come.

Interviewer And how does your organization deal with such uncertainties?

Interviewee Competition exists in all industries and we just have to take it and go with it, you know, you cannot stop our competitors from, from coming in. And but as well, we feel the competition is good because it keeps us on our toes, it keeps – it makes us hold our standards as high as we possibly can and continually find ways to raise that and show that we are still being able to meet all of our customers’ needs.

Interviewer I know that you... – you touched on this earlier, sorry. Ah, but the – okay, so, what would be a better definition with your organization be better described as being bold or risk averse?

Interviewee Wow. Ahm...

Interviewer You know, one or two examples highlighting that would be good as well.

Interviewee Yeah, yeah. So, there is not much middle ground for me, either we are bold or risk averse. Ahm...

Interviewer Well if you are halfway in between, then probably we could, you know, say that it you are somewhere in between. But you know, probably an example or two to quote...

Interviewee Well, risk taking I would say, when we, when we do seek to try and er capture new market share, yes we do actively go out trying to, to take on new projects, convince new customers,
you know, that we are worthy of providing a high level service and but as well you could, you could also align that with being bold enough to step out and try another one. But they don’t always work out the way we hope that it would. Some have worked out very well, mostly not quite so. So, those that we have established are fairly long and good understanding, we try as much to be around as much as possible for those customers. So, are we bold? well... hmm.. or risk adverse? I would say neither actually, we are, we seek to be as stable as we possibly can. Okay now, as one of the strategies if you wanna use that word, that would be we take and we’re not looking actively for an expansion in a very big way, nor, are we contracting or you know, trying to move out to another market, we just to adopt a policy or an objective of being stable.

Interviewer  Okay, okay. Now we’re gonna shift the attention a little bit towards your employees. ‘Cause what I wanna start talking about right now is autonomy which is basically the ability and will to be self-directed in terms of pursuing opportunities and taking actions in terms of your employees. So, let’s talk about your organization’s employees. How does your organization manage its employees? For example, is there a preference for the use of teams, individual work, you know, that kind of thing.

Interviewee  Ours is very much individual based and our staff is committed, you know, they have shown over the years that they are really serious about delivering a high level of service to our customers and as well they have shown themselves, proven themselves good track records that they are able to look out for the customers’ needs on their own. And so, we do give them fair and in fact a good amount of autonomy to carry out whatever is needed for the purpose of meeting those needs. Of course, they do check back with us to make sure that everything is in line with both of our company’s policy, our, our objectives and as also to meet the customers’ needs. And so far it has worked very well.

Interviewer  Okay. And these individuals, your individual employees, how do they decide, ahm sorry, who decides how the work is done? Do they decide it by themselves or does the management, you know, lead the way?

Interviewee  You know, we don’t lead as in tell them exactly what to do because we do sit down with our customers and we’re all aware of what is required and our staff know how to carry that out because they’ve worked with the customers for a long time. And so, we do know what is needed to be done, how to get it done, we have the right people to get it done. And so for that, they’re pretty much left on their own, not so much to all their whims and fancies but in accordance with the customers’ requirements.

Interviewer  Okay.

Interviewee  Yeah.

Interviewer  And do your individual employees, do they propose new ideas and then, you know, do they do that?

Interviewee  Ah, yeah, sometimes in the course of their work they encounter some new things that come along and they certainly come back to us and say like this new opportunity or this new direction. Ahm, and they would like to incorporate that into their work and their delivery and then of course, we feel it only adds value to our customers and then we are all for.
Interviewer  So, they do get to proceed with whatever ideas right up to completion?

Interviewee  Yes, pretty much right up to completion. Of course, once in a while, you know, they move ahead and only to find that it doesn’t quite work out as they thought it would and then they will have to go back to square one, go back to the drawing board again. But that happens only once in a while, most of the time, they get to go ahead.

Interviewer  And this is inclusive of business opportunities and making decisions on their own?

Interviewee  As well, yes. In business opportunities, they do sometimes in the course of their work because they’re on the ground, they come across things like that — that we don’t know when they’re out there in the field. And so, we only get to hear of that through them, so, there are very much our eyes and ears out there, we do rely rather heavily on our staff very much so, and so far they’ve gone out and done a good job.

Interviewer  And this, and all of this is — is that a requirement for them to constantly refer this matter back to the supervisors, and the management or do they get to decide a lot of this on their own?

Interviewee  They do, they get to decide a fair amount on their own. We believe in the — in their ability to make good decisions, yes and we allow them to do so within reasonable means, of course. And so far, it has worked out very well. Our customers have not come back to say that anything was messed up in any way and so, we believe in them and we still continue to get business from our customers so, surely we cannot be stepping too far off the line.

Interviewer  Okay, okay. Thank you. Next one, we move on to the competitive aggressiveness which is basically an organization’s propensity to, you know, directly and intensely challenge its competitors. So, as to either achieve entry or improve your existing position within the market place.

Now, in most cases, in relation to your organization, does it respond to the actions that competitors have initiated? Or does your organization initiate their actions which then your competitors’ respond to?

Interviewee  In this business of ours, neither I believe reacts to each competitor’s actions. More like all of us are reacting to our customers’ initiation of needs. Ahm, we don’t find ourselves, you know, coming out with something new that our competitors have to react to and vice versa because what we come up with may not sit well with our customers at all. So, all of us, I believe are waiting for directions and needs of any change from our customers before we all react. So, not so much that we react to one another in that sense.

Interviewer  Have you ever found yourself being in a situation where you have to respond to a particular competitor’s actions?

Interviewee  Ah, respond as in… no, not particularly respond as in, you know, to protect our market share because I mean, our customers and our clients know as well enough in what we can and are able to offer them. And so far, our customers have not as well made any much of an in roads to our area. So, we didn’t find that there was a need to for that.
Interviewer: And do you, does your organization have a very competitive, you know, we have to undo the competitor type of posture within your organization?

Interviewee: No. We believe as well this market is enough for all of us and also, that each of us have a role to play, as competitors within the same market because in that way it keeps each other on their toes because if I were to I mean if any of us were to be out of the picture. Ahm, it does not mean necessarily that our competitor gets our share because some new entrant might enter the market. So, it’s still back to square one.

Interviewer: Okay, so with that we have gone through the various elements of the entrepreneurial orientation. Now, how do you think this entrepreneurial orientation impacts on your strategic decision making process within your organization?

Interviewee: Ah, back to I guess what I said at the start, hmm, those ords again very ad hoc, very reactive, but even then there is a fair amount of stability so far we see at least, you know, on a six months to one year basis. Ahm, the needs for changes are kept to a minimum because you know, it’s quite stable as it is, we don’t, we don’t have to always come up with a very very innovative things or new ways of doing things and so long as we’re always able to comply or meet our customers’ requirements that would be, that would basically be it.

Interviewer: Okay. Anything else that you like to add in terms of the entrepreneurial orientation of your organization?

Interviewee: Ahm, nothing quite much more because for us it is very very tailored approach that we have. So, it’s very difficult to come up with a standard... you know sort of a a standard operational procedure if you like, you know that everybody follows a template. In that sense, not quite so because we have to be ready at any time to bend or mend on what we do to suit the needs.

Interviewer: Okay. Now, we move on to the environment. So we’re finished up with the strategy process, we’re finished up with the entrepreneurial orientation. Now, the environment is basically you know it’s all the forces external to your organization which have some got form of impact, direct or indirect in terms of your organization, okay? Now, how do you think the environment impacts on your company’s entrepreneurial orientation, you know, strategic decision making process and you know your performance? How does this impact?

Interviewee: Well, ahm, for one it has forced us to er deviation. We, we have empowered our employees right we have worked with them long enough as well the other way around to the point where they know the customer’s requirements, they know the company’s direction and they’re able to carry out those decisions very quickly on the ground and it actually freed us up for a lot of, you know, meetings and a lot of planning or re-planning and because they are able to make those, sort of snap decisions if you will on the ground. And yet get things done in a very timely manner and so for us, we didn’t have to be so – always watching over what our staff’s doing. There wasn’t that need for us not like in some places. And so for, as well our environment being fairly stable, on one hand we say fairly stable but then again not enough for us to make kind of those three to five year plans.

Interviewer: Right.
Interviewee: It is just that whatever we decide for the year, roughly largely stays as such for that year. And then we don’t plan too much for the next year because next year’s requirements might change quite a fair a bit from, I mean year on year. Yeah, so that of course would be the part of our strategic decision making.

Interviewer: All right. And do you think the environment has significant threat to your organization’s survival?

Interviewee: Oh yes. This industry, ahm, you know, showing signs of a little slowing down.

Interviewer: Okay.

Interviewee: We don’t know whether it’s cyclical, you know or it’s because of the new, the new rulings you know that the government imposed on us or as well is this a general weakening, you know within the whole region. But also, we do see the fact that the – there, there has been a slow down. Okay and so for that reason, survival maybe not so much for the near future, but the longer term one can’t say.

Interviewer: So, what, what do you think are some of the key challenges to your organization’s success?

Interviewee: Ah, the survival of the industry.

Interviewer: The industry?

Interviewee: The industry itself. All right so as long as our customers remain where we are – there will be a need for our services. So, the industry’s survival is paramount to our survival or as in our survival is attached to theirs. If the day comes when this industry, well not so much implodes but you know, slows to a crawl and then yes maybe that might be when you see competitors get far more aggressive than what we are now.

Interviewer: And do you see the strategic decision making process in your organization change whenever the environment changes?

Interviewee: Ahm, still no because it is still a very needs based. Ahm, business that we are in, so, every decision that we make is still tailored to each, each customer’s specific requirements. So, the only thing is of course that there is a slowdown in the amount of activity. Hmm, yeah and that would be generally be it.

Interviewer: And what about your overall performance? Does the environment impact on your organization’s overall performance?

Interviewee: No. Our performance is still very much tied in with our individual clients, more so than the environment dictating how well we perform, regardless whether the environment is hostile or not. We still believe in upholding our company’s high standards of performance so that much of it is still very much tied in with our clients and not so much to the environment.

Interviewer: Okay. Any other comments with regards to environment impacting on your organization?
Interviewee: Ah, the threat of new entrants to any business, any industry and for us we’re not immune to that, but so for us new, new entrants to the market always will try and show up to try and take over but it is so far been quite all right, we have been here long enough. Thankfully, our customers still appreciate what we do, so okay so, that has been quite all right for us, yes.

Interviewer: Okay. You would be glad to know that we now proceeding to the final part of this interview. Thank you so much for your patience so far by the way.

Interviewee: Yes.

Interviewer: Okay. Here we’re gonna be talking about the organizational performance. Right? So, I’m just gonna ask you a couple of questions in terms of how you rate your performance. And there’s no need to, you know divulge any sensitive information.

Interviewee: All right.

Interviewer: Ah, so when we talk about the sales of your products and services, you know for this year compared to previous years. Do you see the trend increasing or is it decreasing?

Interviewee: Well, it did, it did go up a little compared to the year before but because of the general slowdown that we see creeping out right now, we will be happy this, if this year’s can hold up to what we achieve last year. We don’t see it going too far, you know upwards, no, not for this year.

Interviewer: But generally, is it enough or stagnant or has there been downfall for the last few years?

Interviewee: It was, over the last few years ago it was going up for sure. Yes.

Interviewer: Okay. And does that relate to your profit as well? A comparison?

Interviewee: Most definitely.

Interviewer: And what about the quality of your customer service in your organization? Has it been improving over the past few years or have you been receiving feedback indicating otherwise?

Interviewee: Oh, I would like to think that our organization has been able to keep up to those high standards. And I think a fair bit of it must go down to the fact that the same people who know the work, the ins and the outs, are still at it. So, you know because there’s this very little chop and change and this very little disruption to the level of service so, we’re able to keep delivering those same high standards. You know month in and month out, thankfully.

Interviewer: And what about customer complaints? Do you get quite a lot of that?

Interviewee: Oh wow. I mean it’s hard to say. I would like to say no, as in, you know we’re doing such a terrific job. Ahm, then again I suppose you could say those so called complaints will be areas as, you know it be pointed out to us so we can make some improvements and we would like to look at it positively. That said I am also pleased to know that complaints are very few and far between.
Interviewer: Is that, is it possible for you to put a number, on the number on the complaints that you received for the whole of last year perhaps?

Interviewee: Ah, whole of last year.


Interviewee: Yeah, actually down to just a handful, a literal handful, as in maybe just 3 or 4.

Interviewer: Okay. And what kind of complaints does your organization usually get?

Interviewee: A lot of it boils down to the fact that, you know they have different expectations. Ahm, and perhaps those expectations were not, not so much not met but not well managed, you know. Or maybe we didn’t take the extra effort to hear our customers out and we misread what we thought they wanted. And we did our best to meet what we thought they wanted which in fact was a little off and for those times, we did get some feedback which we take most seriously, of course and we sought to rectify that as much as we could as speedily as possible.

Interviewer: Okay. And I know you kept saying that for your organization your customers’ play a very important role. And how do you, how does your organization go about retaining your customers to achieve this repeat orders?

Interviewee: Oh, just keep delivering that same high level of service with minimum complaints. Ahm, and as timely as possible. We try never to miss deadlines, yes and thereby not giving our customers any cause to look elsewhere. That’s what we can do in this line.

Interviewer: And do you have any key performance indicators that are used within your organization?

Interviewee: Well, we do use of course what our customers set for us. It’s a minimum as in they do have certain criteria as to how they want the service to be delivered and we apply those same conditions or criteria to ourselves. And so, for us if we can meet those and I think we are fine. So, if we were to look back at 2014, where we only had only about three or four, you know instances where our customers weren’t exactly thoroughly pleased and I think that’s not too bad. That’s on an average of the quarter [inaudible] not that we’re proud of the number but when I think that means we generally have met most of the customers wants.

Interviewer: And these KPIs, have they changed over time?

Interviewee: Not in this case because as well the industry hasn’t quite changed that much, not drastically and so, they have remained pretty much the same.

Interviewer: Okay. Interviewee, now you’re being the owner, Chief Executive of this organization of yours. What do you think is the most important thing to assess how well your business is doing in your opinion?

Interviewee: Oh, those orders that fill up the next six months that will be one of the first indicators if not the key indicator that our business is doing well. First of all, if you look at our schedule, down the road and we see a lot of holes in there that are not filled up and that’s the first
sign that perhaps, either what we’re doing, we’re not doing well enough or of course it could as well mean that whatever it is our customers are doing, they are suffering as well. So, we’re not getting the business well, otherwise so far it’s been holding out pretty well.

Interviewer   And what other factors do you think are important for your business performance?

Interviewee   Ahm, factors for our business performance, hmm, no, we pretty much, we put pretty much all that we need out there and we seek to meet all of those all the time. And sometimes I guess we amaze even ourselves how we are able to meet all of those deadlines, you know with the limited resources that we’ve got. And I’m very happy to know that it indicates that all our staff are putting their best work out there, you know to keep those orders met and to ensure the new ones keep rolling in.

Interviewer   Okay.

Interviewee   Yeah.

Interviewer   Ahm, another important question is what do you think is the link between the strategy process that you described that is evident in your organization and performance?

Interviewee   Oh, the ability to keep it open, so that we can then again that word, so we can react as quickly as possible, we find that if we have our plans too, too laid out, you know too spelled out, too sort of cast in stone, it sort of puts a kind of a limitation or makes us less willing to alter our approach. But by staying a little trim, and yeah it has allowed us to be able to react quicker and that has ensured that we kept our performance level the same – the same high standards all this while.

Interviewer   And do you think that this strategy process might evolve or change in the future?

Interviewee   Perhaps, we don’t know but until we can get anything more from our customers for a longer stretch, ah then we cant give too much at our end because a lot of it is very much driven from that side. That’s where it triggers everything that we do, so it must first come from our customers.

Interviewer   Okay. Do you have any other comments about the performance in your organization that you wish to add?

Interviewee   Ah, I wish every staff that we have would be, you know remain as diligent all this time and beyond. But it is really, really very difficult to find a very good dedicated staff and for everyone to uphold the same high standards because all you need is one person to put in a job that is slip-shod and that is it, everything up for us.

Interviewer   That you have worked for over the years.

Interviewee   Yeah.

Interviewer   Okay, Interviewee I just like to inform you that the interview is over. Is there anything else that you like to add that you have that has not been covered in the interview so far?

Interviewee   Ah, no. I think you covered pretty much all that there is here in this questionnaire as well and I hope through the little elaboration that I provided has cleared up some things for you.
Interviewer: Oh yeah, definitely yes. I think you were really thorough I must thank you for the time that you have set aside for me to do this study and would you like to receive a summary copy of this findings of my study?

Interviewee: Oh, that would be nice I would like to read that, thank you very much for this.

Interviewer: So, I’ll just like to explain that this would be done after I’ve completed this particular thesis and once it’s been submitted. I will also thank you for allowing me to audio record this entire interview and I can assure you that this audio would be deleted the day after my thesis is submitted. So it will be handled with the restriction of confidentiality and like I’ve mentioned earlier before I started recording all of this data would be treated with the utmost sensitivity, so you don’t have to worry about any of your details or your company’s details being devouched.

Interviewee: Thank you so much for that.

Interviewer: Okay, thank you so much and you have a good day, Interviewee.

Interviewee: Thank you.