

Explicating the inter-relationship of Entrepreneurial Orientation, Environmental Dynamism and Dynamic Capabilities on Competitive Advantage of Small- and Medium-sized firms in an emerging market context

**A Thesis submitted
for the of degree of Doctor of Philosophy by
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December 2019

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Abstract

More than five-decade old entrepreneurship literature suggests a positive relationship between entrepreneurial orientation and firm performance in developed economies context. For universality of this relationship, there is a need to examine the effect of entrepreneurial orientation on competitive advantage in emerging markets context especially where there is high environmental dynamism and in SMEs context. In this setting, this research examines the effect of entrepreneurial orientation on competitive advantage, the effect of environmental dynamism on competitive advantage, and the influence of environmental dynamism on relationship between entrepreneurial orientation and competitive advantage. While deepening the understanding of these relationships, an exhaustive, comprehensive literature review of entrepreneurship and strategy research field in this thesis found that prior studies consider external factors only, thus neglecting the effect of internal firm-level characteristics. Analogous to this, the resource-based view proclaims that firms' ability to achieve sustainable competitive advantage in rapidly-changing environment lies in the knowledge-based, higher-order internal firm assets that serve as basis for firms to develop dynamic capabilities. This thesis argues that this debate is still emerging, and hence, the study in this thesis empirically asserts that when SMEs develop and build assets on the basis of their defining characteristics, they augment their competitive strength. This thesis also investigates the nature of SME dynamic capabilities and presents their unique operationalization taking into consideration the defining characteristics of SMEs which are embedded in their culture of adhocracy. Moreover, this thesis empirically examines the collective intervention and the mediation effects of dynamic capabilities on the relationship between entrepreneurial orientation and competitive advantage. The empirical findings from sample of 248 Indian SMEs demonstrated that: a) an entrepreneurial orientation positively contributes to SME competitive advantage, b) environmental dynamism negatively affects SMEs' competitive advantage but positively moderates the relationship between entrepreneurial orientation and competitive advantage c) dynamic capabilities have positive effect on SMEs' competitive advantage, and d) dynamic capabilities do not have mediation (or, intervening) effect on the relationship between entrepreneurial orientation and competitive advantage. Based on these results, this thesis contributes to both strategy and entrepreneurship literatures by offering a conceptual and empirical path in form of an integrative model to enhance SMEs' competitive advantage when SMEs utilise a combination of series of external and internal competencies to form and evolve.

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Acknowledgements

I intend to express my appreciation and deep gratitude to the people that supported and helped the successful execution and implementation of this project. I would like to thank Brunel University for providing opportunity to pursue higher research qualification and academic platform by offering flexible yet robust and excellent research environment.

I was lucky to receive valuable guidance from my supervisor team throughout the long and arduous journey of my PhD thesis. I am grateful to Dr. Dimitrios Koufopoulos for believing in my research inquiry and my research model helping me realize the potential of this study. Dr. Dimitrios spent time with me during the developing stages of this research effort, offering ample support. He has been as the primary supervisor from beginning of this thesis and has offered rich guidance related to the process of PhD, steering this project from its inception to conclusion. He has patiently clarified all my queries and showed me the end of tunnel with clarity. I thank Dr. Christos Pitelis for showing interest in my work and his guidance and encouragement as a team. I would like to place on record the help of Dr. Bidit Dey, especially in the final stages of my work. The supervisory team from Brunel University have always adjusted my preferences by being open-minded, objective and supportive.

I am eternally grateful to my family i.e. my daughter for accommodating my studies, my husband for his constant encouragement, for truly being my better half, my parents for being my support pillars and the masters, mentors and colleagues for their wishes, throwing light on things, counselling, intellectual academic discussions and methodological expertise without whom I would not have been able to successfully shape and submit this colossal project. Thank you for giving me the opportunity and freedom to pursue my own interests, for supporting and encouraging me in every possible way. I could not do the things I have done without you.

**Explicating the inter-relationship of Entrepreneurial
Orientation, Environmental dynamism and
Dynamic Capabilities on Competitive advantage of
Small and Medium sized firms in an emerging
market context**

Chapter 1

Introduction

1.1 Introduction to the research

The purpose of chapter 1 is to introduce the theoretical and practical reasoning underlying the research titled “Explicating the inter-relationship of Entrepreneurial Orientation, Environmental dynamism and Dynamic Capabilities on Competitive advantage of Small and Medium-sized firms in an emerging market context “.It offers a rationale as to why the effort of this research will be advantageous for contribution to the theory and useful for the practitioners. For this, the chapter will commence with a brief sketch of the research context, purpose, research gap, research objectives, and the overview of hypotheses. It will further discuss the themes within relevant literature, the critical questions in the research, design, methodology, and the ultimately, structure of the theses.

Entrepreneurship represents an aspect of attention within the realm of firm-level research. As a concept, it is interestingly complex to analyze and position(Hoskisson, R. E., Covin, J., Volberda, H. W., & Johnson, R. A. 2011). It is a broad and diversely-spread phenomenon that researchers, worldwide, have found of profound significance (Audretsch, D. B., Kuratko, D. F., & Link, A. N.,2015). The concept of entrepreneurship is a blend of multifarious disciplines e.g. Economics, Sociology, Psychology, and Anthropology. Entrepreneurship research is diverse, multi-faceted, and continuously expanding (Busenitz, L. W.,2003) and caters to research using various methods, approaches, and empirical findings (Dana, L. P., & Dana, T. E. 2005).

Recent years have seen the growth of sharing economy whereby public and private organizations can come together to generate value. Consumers are at an advantage when entrepreneurial firms successfully bring out innovations in the market place (Paik, Y., Kang, S., & Seamans, R. 2019). According to the projections of Drucker (1985), the World’s economy is experiencing the transition from “managerial” to “entrepreneurial” nature. This has resulted in several changes in the industry and business landscape overall. Thus, the research on entrepreneurship represents an endeavor to scrutinize and systematize the changes. The entrepreneurship literature discusses changes in shortened product life cycles and the disappearance of business models. As a consequence, there is an emergence of new patterns of development and production of commercially consumable products and services, and also disruptive business models (D’Aveni, R. A., Dagnino, G. B., & Smith, K. G. 2010). This has changed the bases of competitiveness as demonstrated in the relinquishment of traditional, 'old'

production philosophies to modern change-oriented, sense-and-respond ones (Gothelf, J., & Seiden, J. 2017). From the larger lens of macro-environment, the business landscape in recent decades is characterized by higher complexities, dynamism, and unpredictability. Digitalization, globalization, and deregulation have led to the fast-moving and rapidly changing business environments (Ng, H. S., & Kee, D. M. H. 2017). Management of shorter product life cycles, changing business models, technology sophistication has become strategic priorities for fast-growing firms. This environmental context affects all players in the ecosystem irrespective of the firm size. To cope up with these environmental exigencies, it warrants a review of firms' capabilities, their strategies, and their approaches in dealing with dynamic environments. It also imposes challenges on business decision-makers' sensing, seizing, and establishing opportunities, and exploiting them for reconfiguration of resources for sustained competitive advantage. The capabilities to sense, seize and reconfigure resources are described as 'Dynamic Capabilities' in the strategic management literature and are defined as *"the firms' ability to integrate, build, and reconfigure internal and external competences to address rapidly changing environments"* (Teece et al., 1997, p-515).

Fostering and developing these capabilities in the organization requires a fertile context where the construct of entrepreneurial orientation of firms has a vital role (Lumpkin & Dess, 1996; Wiklund & Shepherd, 2005; Covin & Lumpkin, 2011; Ferreira, Fernandes, & Kraus, 2019; Wiklund & Shepherd, 2011, Bretel and Rottenberger, 2013). To compete successfully against competitors, entrepreneurial firms continuously create, discover, and exploit opportunities (Hamel & Prahalad, 1994; Sathe, 2003; Shane, S., & Venkataraman, S. 2007, Casson, M., & Wadeson, N. 2007, Ucbasaran, Westhead, Wright, 2009, Zahra, S. A., & Nambisan, S. 2012). Seminal studies in the relevant literature (Lumpkin and Dess 1996; Richard et al., 2004) elucidate the mechanism of putting entrepreneurship into practice. Entrepreneurial Orientation (EO) is described as a firm-level attitude oriented toward the strategy-making processes that provide organizations with a fundamental tool for entrepreneurial decisions and actions (Ireland and Webb, 2007). At a macro level, the benefits of entrepreneurial activity are identified as enhancing the competitive dynamism of industry sectors and contributing to stimulate the growth potential of firms (Van Stel, A., Carree, M., & Thurik, R. 2005, Thurik, A. R. 2009). However, the challenge for researchers is to convert these macro statements into tangible firm benefits. The starting point for this is to establish a formal and clear definition of entrepreneurship so that attempts can be made to device a variable that captures the potential of entrepreneurship into clear business performance and profit outcomes. The task is intriguing

because the conceptualization of entrepreneurship involves the collective characteristics that are both, external and internal to the firm,(Wales, W. J. 2016).

For the concept of entrepreneurship, external characteristics relate to linkages with firm context, performance, and external business environment (Covin, J. G., & Lumpkin, G. T. 2011). The functional linkages among entrepreneurship and the internal environment of the firm constitute the external characteristics that are underexplored in the research. The thesis caters to this gap in the literature.

The examination of how entrepreneurship contributes towards (small) firm competitive advantage is the **first theme** of investigation in this research. Small and medium enterprises (SMEs) are the economic growth engines for countries worldwide (Savlovski, L. I., & Robu, N. R. 2011). These firms represent the seeds of enterprising acumen, demonstrate variety, and stimulate economic and social progress. The motive for starting, establishing and sustaining a firm could be based on either opportunities spotted and available in the market or by way of necessity or crisis. This has bearing on which industries they enter and what business do they conduct. This also has an influence on what strategic decisions they take and what sources of heterogeneity it creates (Nikiforou, A., Dencker, J. C., & Gruber, M. 2019).The potential of SME firms to mobilize scarce resources and given their limitations goes to show that their pursuit of entrepreneurial activities is a result of a combination of leveraging on their trait of flexibility and culture of adhocracy and possession of a set of internally created, fundamental, simple, and iterative processes turned into capabilities. Dynamic capabilities manifest some cultural characteristics (Chen and Lee, 2009) and therefore their impacts on firm performance outcomes may be fundamentally indirect (Ferreira et al 2020).

In this thesis, the concept of entrepreneurship is operationalized as the “manifest behavior of the firm in terms of its entrepreneurial orientation which includes elements of risk-taking, proactiveness and innovativeness”. Entrepreneurship results in the creation of new economic activities. This is essential for enhancing the competitiveness of firms and nurturing their performance dynamics (Stuetzer, M., Obschonka, M., Brixy, U., Sternberg, R., & Cantner, U. 2014). Small and medium firms are characterized as being agile yet vulnerable to the forces of change, functioning under external environment uncertainties, with minimal formalized organization structure or managerial infrastructure (Gilmore, A., McAuley, A., Gallagher, D., Massiera, P., & Gamble, J. 2013). Given these settings, the scope and range of their

competitive activity are constrained due to limited access to resources and a lack of suitable knowledge formations (Dwivedi, Y. K., Papazafeiropoulo, A., Supyuenyong, V., Islam, N., & Kulkarni, U. 2009). For such SME firms, performance becomes an impending issue for mere survival in the first place. (Bagnoli, C., & Vedovato, M. 2014). Flexibility and adhocracy (Mintzberg, 1985) are the primary defining and unrefuted characteristics of SMEs. They are encountered with special challenges of liabilities of smallness particularly in terms of the inadequacy of most resources (Stinchcombe, 1965; Pullen, A., De Weerd-Nederhof, P., Groen, A., Song, M., & Fisscher, O. 2009). This breeds certain firm capabilities that can assist them in innovation, competitive advantage, and growth. Firm's capacity to mobilize, combine and modify its resources and respond to the changes in markets and customers are vital and highly desired firm-level traits that should heighten its potential for providing distinctive advantage compared to the competitors' and eventually for enhancing growth potential. The physiognomy of small and medium firms characterizes organizing systems that counterbalance their lack of informal structure and decision making by demonstrating swift decision-making, simplicity, and flexibility in their competitive inventories (Miller, 1993). Entrepreneurship is the development of new economic activities, and entrepreneurial orientation reflects the firm entrepreneurial behavior in terms of traits of pro-activeness, innovativeness, and risk-taking. (Naldi, L., Nordqvist, M., Sjöberg, K., & Wiklund, J. 2007; Basso, O., Fayolle, A., & Bouchard, V. 2009). There is a consensus that this will sustainably reward firm-level outcomes (Rauch et al., 2009, Wiklund, 1998) and scholars further stretched this disposition to accommodate strategic, environmental (Wiklund and Shepherd, 2005, Zahra, 1993) and structural (Miller, 1986; Zahra, 1996) contingencies. Despite a substantial literature of entrepreneurship research aiming to understand why some organizations outperform others, here is still a lack of convincing evidence of an integrative model. Thus, this research is an effort to understand that conundrum and build an integrative model.

The **second theme** of this thesis introduces environmental dynamism as a direct influencing factor for competitive advantage. As the turbulence in the environment becomes high due to changes in technologies, markets, competitors, etc., the propensity of a firm to generate competitive advantage gets affected which the thesis attempts to empirically assess (Kim, H. J., & Kim, B. K. 2016). Apart from the direct effects of environmental dynamism, the thesis also investigates the indirect influence of environmental dynamism on the relationship between entrepreneurial orientation and competitive advantage.

The third theme of this thesis brings into attention the concept of dynamic capabilities within the context of SMEs. The research aims to conceptualize the notion of dynamic capability as internally generated processes that work on the resource base of the firms and create and sustain competitive advantage in rapidly changing environments. The concept of dynamic capabilities and its utility for SME competitive advantage has gained momentum in the past few decades. However, the combined effects of these constructs on SME competitive advantage in dynamic environments are underexplored. Hence, the current research commits itself to empirically investigate the interrelationship of dynamic capability with the entrepreneurial orientation of SMEs and their combined contribution to firm competitive advantage considering the direct and indirect effect of environmental dynamism.

Hence, the research is mainly divided into two themes – examining the effects of entrepreneurial orientation and dynamic capabilities on the firm competitive advantage and indirect effect of environmental dynamism in these relationships. Firstly, this research examines how the interrelationships among entrepreneurial orientation, environmental dynamism, dynamic capability, and competitive advantage are demonstrated in the dynamic business environment faced by SMEs of the emerging economy. Secondly, it characterizes a heterogeneous synthesis of conceptual streams from the wider domains of strategy, entrepreneurship, and the (firm-level) organizational theories dedicated to examine and measure the direct and indirect effects of interplays among entrepreneurial orientation, environmental dynamism, and dynamic capability contribute productively towards competitive advantages of SME.

1.2 The research objectives

The overall purpose of the current research is to investigate how a firm competitive advantage is enhanced by a combination of its entrepreneurial traits and configuration of a firm's internal environment. These beliefs are applied to examine firm behaviour in the context of SMEs. SMEs are entities in pure form in terms of minimalism of competitive repertoires and managerial formulations.(REFERENCE TO BE ADDED) In SME, the strategic decisions relating to growth profits reflect the mindset of a single individual or a small top management owner-led team (Jocumsen, G., 2004). Huang, X. 2009). Firm structures and configurations are represented by quite simple, dynamic processes that are developed within the SME to sense

the environmental stimuli and respond to sensed emerging opportunities in a rapidly changing industry, competitive and market environments. (Hernández-Linares, R., Kellermanns, F. W., & López-Fernández, M. C.2020).

This research asserts that the internally developed firm assets, resource stocks, or competencies are demonstrations of defining characteristics of SMEs like adhocracy and flexibility (Mintzberg 1985). They are refreshed, renewed, and modified from time to time by SME dynamic capabilities that represent the higher-order processes and routines that an SME generates to create opportunities for innovation and growth. The development of dynamic capabilities echoes the entrepreneur's intent to expand the firm's 'arsenal' to create, pursue, and implement entrepreneurial objectives. The message communicated throughout this research effort is: when the physiognomy of SMEs is considered, Entrepreneurial Orientation and Dynamic Capabilities should have a collective positive effect on the competitive advantage of SMEs over and above the main effects of each aspect in isolation.

As explained in subsequent conceptual and the empirical parts chapters of the research, SMEs entrepreneurship is - manifested in the entrepreneurial orientation construct (Miller, 1983; Covin and Slevin, 1989; Wiklund and Shepherd, 2005) indicates the starting point for building conceptual model wherein dynamic capabilities are demonstrated by way of a) Strategic sense-making (Neill, McKee, & Rose, 2007; Pandza & Thorpe, 2009; Weick, Sutcliffe & Obstfeld, 2005), b) Responsiveness and decision making (Benjaafar, Morin, & Talavage, 1995; Shafman & Dean, 1997) and, c) Reconfiguration ability (Harrell, O'Reilly, & Tushman, 2007; Noble, 1999) constructs - are examined for their direct effects on the current study's dependent variable- Competitive advantage.

The research has taken the concept of environmental dynamism as its direct and indirect effect on the propensity of firms to achieve competitive advantage. In this regard, competitive advantage is realized as the outcome of this process. This examination is straightforward and it is supplemented with an investigation of the indirect and total effects of these constructs on the entrepreneurial orientation –competitive advantage relationship.

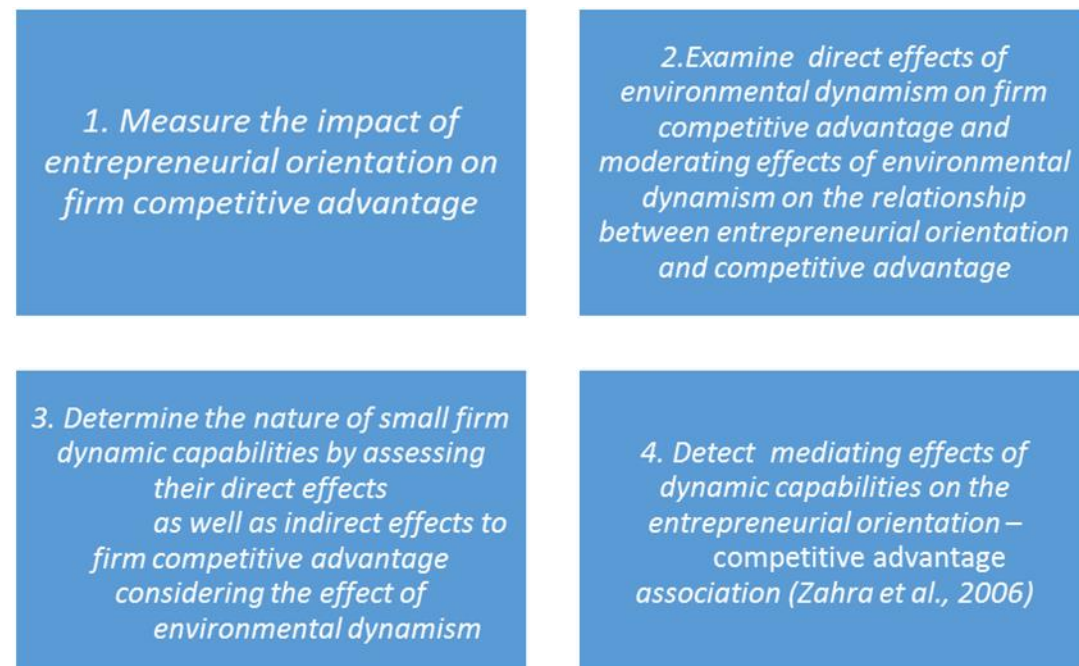
Armed with the above underpinnings, the study's pursuit of knowledge and new understanding regarding the relationship between entrepreneurial orientation, environmental dynamism, dynamic capabilities, and competitive advantage is decomposed into three interrelated, four

leveled objectives that highlight the three integral themes discussed throughout this study. As such the present research is interested to pursue the following research objectives:

- (1) To carry out a comprehensive literature review on the measures of the unidimensional and multidimensional impact of entrepreneurial orientation on SME competitive advantage
- (2) To explore the direct effect of environmental dynamism on competitive advantage and the moderating effect of environmental dynamism on the relationship between entrepreneurial orientation and competitive advantage
- (2) To investigate the nature of SMEs' dynamic capabilities by assessing their direct effects on the competitive advantage of the firm
- (3) To detect the interaction effects of dynamic capabilities on the relationship between entrepreneurial orientation competitive advantage

1.3 Research questions

The literature review stage of this study, which can be found in the following chapter, identifies three open debates that exist in the realm of strategic management and entrepreneurship studies. Fully aligning with its research objectives above, the study's research questions have been developed to directly address those issues empirically. Following chart provides an overview of four main research questions in this thesis:



These four research questions are disintegrated to reflect their theoretical background. The **first** literature theme discusses the relationship between entrepreneurial orientation (EO) and competitive advantage (CA). The relationship between EO and competitive advantage is well established in a variety of conceptual (Covin and Slevin, 1991; Zahra, 1993) and empirical investigations (Naman and Slevin, 1993; Covin and Covin, 1990; Wiklund and Shepherd, 2003; Wiklund and Shepherd, 2005).

Despite the popularization of the entrepreneurial orientation construct in a variety of research applications, the research related to the utility and the advantage of EO for SMEs is underexplored. Rauch et al. (2009) started another debate related to the dimensionality aspects (unidimensional or multidimensional construct) of entrepreneurial orientation which is discussed among scholars for nearly a decade (e.g. Lumpkin and Dess, 1996, Covin et. al 2006). Scholars earlier discussed that a construct can take any of either unidimensional or multidimensional form. The unidimensional approach implies that pro-activeness, innovativeness, and risk-taking have a collective effect on firm competitive advantage whereas multidimensional form implies that each dimension has varying significance (Rauch et al., 2009; George, 2006, Covin et al. 2006; Lumpkin and Dess, 1996;2001). Hence, the first question in this thesis addresses this call and examines the direct relationship between entrepreneurial orientation and competitive advantage with considerations of EO as both, unidimensional and multidimensional construct.

The **second** theme discusses the effects of environmental dynamism on the variables identified in this research. Environmental dynamism is important because dynamism arising in business due to changes in technology, globalization, re-regulation, and digitalization has a profound impact on products, services, and business models. The dynamism creates hostility which can affect the firm's competitive advantage and the potential to create the advantage adversely by creating disrupting, weakening supply chain efficiencies, eroding sources of competitive advantage, dampening competitive positioning, thwart first-mover advantage. This research poses questions related to the direct effect of environmental dynamism for SMEs' competitive advantage as well as the indirect effect of environmental dynamism affecting the relationship of entrepreneurial orientation and competitive advantage.

The **third** literature theme in this research is related to the nature and character of dynamic capabilities, a holy grail of strategy and management literature when it comes to the aspect of competitive advantage in the fast-changing business world. The strategic management literature that discusses the 'virtues' of those highly valued assets remains unestablished at least empirically and appears vague and unclear regarding their performance implications especially related to SMEs (Zahra et al., 2006; Eisenhardt and Martin, 2000; Zott, 2003, Teece et al., 1997).

To fill this gap, this study's second research objective resonates with these calls. For this, a series of research questions are developed aiming to 'demystify' nature and character of SME dynamic capabilities. As such, these questions navigate the research efforts towards identifying the direct effects of dynamic capabilities on SMEs' growth as well as understanding their mechanism. As per recent theorizing (Ambrosini et al., 2009) of these assets that may have a form of hierarchy in terms of their impact.

The **fourth** and final literature theme addressed in this thesis is synthetic and twofold. It emerges from the integration of literature in the domains of entrepreneurship and strategy. It extends current thinking by introducing a novel understanding of SMEs' high-performance entrepreneurship. It aspires to understand and evaluate the integrative aspects of both the beneficial variables in the competitive advantage of SMEs. In addition to examining the effects of EO and DC on competitive advantage, it examines the presence of incremental advantages in the presence of both of the constructs. It also examines how the co-presence work when the environments are dynamic. The research inquiries into the mediating effect of dynamic capability between entrepreneurial orientation. It 'bridges' entrepreneurial orientation and dynamic capabilities into a collective, unifying manner by defining the effects of this 'collaboration'. It attempts to develop an understanding of how this combined effect works with dynamic coordination and synergy. The study's research questions are summarized below:

RQ1. What is the magnitude (impact) of uni-dimensional and multidimensional effects of Entrepreneurial orientation on competitive advantage (of SMEs)?

RQ2. How does the attributes of environmental dynamism directly affect competitive advantage of firms?

RQ3. What is the indirect influence of environmental dynamism on the linear relationship between entrepreneurial orientation and competitive advantage?

RQ. How does the dynamic capability directly affect impact competitive advantage of firms.

RQ.5 What is the mechanism by which higher competitive advantage is achieved by indirect role played by dynamic capabilities by mediating between the relationship of EO and competitive advantage?

1.4 Academic positioning of the study

The current thesis is positioned within two popular streams of management thinking, namely entrepreneurship and strategic management. It could be agreed that the debate about entrepreneurship in SMEs is broad and entrepreneurship should be studied in a wider, less restraining manner (Miller, 1983:770). When SMEs unfold their venturing actions, for better grasp and understanding of these activities and internal processes, it is helpful to take an inward lens and critically scrutinize: a) how their entrepreneurial creativities and actions are demonstrated especially in dynamic environments, b) what is the mechanism by which the internal factors, routines, processes, and capabilities interact and most importantly refresh, renew and even transform in and around to provide an advantage in rapidly changing environments as well as and reinforce entrepreneurial intents, and mainly, c) how the interplay between the duo contributes towards their advantage vis .a vis competitors.

While researching about the dimensionality debates of entrepreneurial orientation, it happened that many studies tend to use a single-dimensional and sector-specific criterion when examining the effects on competitive advantage of firms (Delmar et al. 2003; Julien, 2001; Calvo and Lorenzo, 2001). Although this research uses a cross-sectional approach and the sample size is relatively small, it acknowledges that firm growth (through competitive advantage) is heterogeneous and dynamic (Shepherd and Wiklund, 2009; Levie and Lichtenstein, 2010). In this respect, entrepreneurial orientation (EO) (Lumpkin and Dess, 1996; Covin and Slevin, 1989; Miller and Friesen, 1982) is conceptualized as a key SME entrepreneurial behavior element and rightly justified as one of the predictor variables.

As the connection between EO and competitive advantage appears under-researched especially in the context of Indian SME firms and is also not well documented (Rauch et al., 2009), this study clarifies and re-establishes this link, and further augmenting it by including resource view of the firm to incorporate the concept dynamic capabilities (Winter, 2002; Eisenhardt and Martin, 2000; Barney, 1991; 2001). The debate about entrepreneurship and dynamic capabilities is still in a nascent stage of conceptual development and this research evaluates both the character and empirical value of such highly valued firm asset in an endeavour to create an integrative framework elucidating the mechanism by which the interaction between EO and DC adds value to small firms in terms of the effect on competitive advantage.

In conducting the literature review of management studies, especially in the case of cross-disciplinary research, it was observed that some aspects warranted advanced understanding. First, EO research has been majorly conducted keeping the financial performance as the dependent variable while less impetus has been given to the relationship of EO with other non-financial constructs as a dependent variable which could be key drivers of underlying financial performance and it would make more sense to understand that relationship at a micro foundation level. Second, the research on dynamic capability in SMEs although has gained momentum in the last few years, however, the research is more conceptual and warrants robust empirical demonstration and study of its concrete effects on competitive advantage across a variety of contexts. Third, the research on SMEs' competitive advantage needs more focus and consistency and established empirical grounding of the effects of the multidimensional nature of variables affecting SMEs' competitive advantage .

1.4 An overview of the thesis

A conceptual landscape for the research is crafted and developed in the first three chapters of the thesis. There was a need to operationalize the broad concepts of outside in entrepreneurship and inside out dynamic capabilities within the context of fast-changing environments to assess effects on firm competitive advantage. Hence, the conceptual part focused on defining and operationalizing the constructs under examination.

This effort is essential as it draws the borders for scrutinizing a series of conceivable empirical models, portraying the validity of the hypothesized relationships and their direct and indirect

influence on competitive advantage. Such an amalgamation of perspectives is certainly helpful, as it presents an innovative sketch of these functional linkages in the form of combined and interrelated processes. These processes are the glue with binds the perspectives together. This activity resonates with the appeal for a simultaneous understanding of the underlying formation and shaped character of the examined phenomena when the nature of organizing systems is considered (Wiklund et al., 2009). In this research, a conceptual framework has been developed to accommodate the proposed sequence of functional links between entrepreneurial orientation, dynamic capabilities, and competitive advantage under the influence of environmental dynamism.

Chapter 4 essentially provides the navigation apparatus has been utilized to incorporate the path of further research action that was implemented for the current research effort. A cross-sectional non-experimental design has been employed and a questionnaire survey has been used for collecting data from small and medium enterprises within India.

The first literature theme confirms and clarifies the relationship between Entrepreneurial Orientation and competitive advantage. After that, the reference of environmental dynamism is brought into attention and the inverse relationship between environmental dynamism and competitive advantage is proposed and established. The first two hypotheses are independent of each other. Subsequently, the role of dynamic capabilities is conceptually developed by presenting three subsets of dynamic capabilities as applicable to SMEs namely - strategic sensing ability, responsiveness and decision making, and reconfiguring ability. Their associations with competitive advantage are also examined individually. After completion of this task of direct relationships, the study addresses call for intellectual attention of potential indirect effects. These refer to interactions of environmental dynamism on the relationship between entrepreneurial orientation and competitive advantage and the most important focal point of research i.e. relationship between entrepreneurial orientation and dynamic capabilities (Rauch et al., 2009; Zahra et al., 2006) regarding competitive advantage as an outcome variable. It is an association that appears undocumented under this prism of investigation. The examinations related to indirect effect takes the form of moderated regression for environmental dynamism equation and mediation using a structured equation modeling regime with scholars correctly claiming that dynamic capabilities mediate the relationship between entrepreneurial orientation and competitive advantage. According to Zahra et al. (2006), the dynamic capability should directly affect the resource base of the firm which in turn affects competitive advantage.

Research literature in the domain of strategic management and entrepreneurship, that offers robust empirical representations on the functional linkages between dynamic capabilities and entrepreneurship as such a relationship is relatively new (Zahra et al., 2006). This is true especially in the novel context of SMEs in an emerging economy. Moreover, the dynamic capabilities literature is considered to lack distinctiveness in terms of its definition's terms (Winter, 2003; Eisenhardt and Martin, 2000) and comprehensiveness in demonstrating empirically the direct associations with competitive advantage (Teece et al., 1997; Zahra et al., 2006). Therefore, the representation of such an empirical 'dialogue' necessitates in-depth discussion regarding its aptness and conceptual applications. Given these challenges, the outcomes are gratifying in terms of highlighting the most significant indirect effects that influence the association between entrepreneurial orientation and competitive advantage with and without the consideration of environmental dynamism influences.

Both entrepreneurial orientation and dynamic capabilities are extensively researched and are individually linked with competitive advantage. However, their collective effect on firms especially on how they interact to give competitive advantage when environmental dynamism is high is under-researched. This may be because there is a commonality in these constructs which confuses. This research aims to explore the interplays between these constructs. Specifically, in the context of a highly dynamic environment, where SMEs are highly vulnerable, elements from both EO and DCs approach are likely to interact and integrate with sustaining competence and competitive advantage.

To summarize, the present study contributes distinctively towards analytical and conceptual and fronts of dynamic capabilities and entrepreneurship research, for a variety of motives;

- (1) Conducting empirical examination of the inter-relationship between the entrepreneurial orientation of SMEs and their competitive advantage.
- (2) Assessment of the direct effects and the moderating influence of environmental dynamism on SME competitive advantage
- (3) Conceiving and crafting the concept of SME dynamic capabilities including operationalization of its dimensions in the SME context.

- (4) An empirical examination of the value of dynamic capabilities and its dimensions on SME competitive advantage.
- (5) Integration of entrepreneurship and dynamic capabilities literature streams into a broader, unified 'picture' that portrays the distinctive character of small and medium organizations.
- (6) An empirical assessment of the collective influence of entrepreneurial orientation and making and dynamic capabilities on competitive advantage with and without the effect of environmental dynamism.

1.6. Organization of the study

The first chapter of the thesis presented the themes that constitute the core focus of this empirical research. Following this introduction, Chapter 2 provides a literature review on entrepreneurship, dynamic capabilities, environmental dynamism, and competitive advantage respectively, with specific emphasis on the dimensionality debate of entrepreneurial orientation as well as the formation and conceptualization of construct of dynamic capabilities particularly for SMEs and the operational definition of dynamic capabilities for this research. Chapter 3 develops the conceptual framework, followed by chapter 4 related to the methodology employed to explore a series of issues and hypotheses while the thesis' last 3 chapters (5-8) sequentially present the analytical regime, discuss key findings and conclude the study with theoretical and practical implications, respectively.

Chapter One introduces the concepts, purpose, research objectives, and questions of this study as an overview.

Chapter Two Part A discusses entrepreneurial orientation, its conceptual premises, and research into its performance implications, demonstrating why the linkage between EO and competitive advantage deserves further empirical attention.

Chapter Two Part B examines the concept of the entrepreneurial SME from a perspective of the resource-based view, with an overt focus on the development of dynamic capabilities.

Chapter Two Part C discusses SME's competitive advantage as the dependent, multi-dimensional performance measure of this study.

Chapter Three synthesizes all of the above into a framework, presenting the literature gaps that this study addresses. This is complemented from a conceptual model that is then 'deconstructed' into hypotheses.

Chapter Four discusses the philosophical, methodological, and research design terms of this effort.

Chapter Five and Six presents the study's analytical and empirical examination.

Chapter Seven illustrates the study's findings, comparing these upon the current theory to critically assess the research effort's conceptual and empirical claims.

Chapter Eight highlights the contributions and conclusions drawn from this study and puts forward its theoretical and practical implications. Moreover, this chapter discusses the study's limitations with the introduction of a research agenda for the future.

Chapter Nine notes the list of references, tables, and appendices.

The above presented nine chapters are accompanied by three appendices that include the study's questionnaire and cover letter that have been used for the collection of empirical data, the study's research protocol, and the analysis protocols respectively.

1.7 Chapter summary

The objective of this chapter is to appraise the concerned reader for the intent, of the present investigation, demonstrate the underlying conceptual understanding of the phenomenon under examination, and the path of action that is necessary for the achievement of the study's purpose and research intentions.

Chapter 2

Literature review

2.1 Introduction

This Chapter takes a modular approach whereby literature reviews for each construct have been presented one after the other. The chapter contains comprehensive, interpretive literature reviews of the constructs underlying and affecting the research model of this thesis which includes predictor constructs, dependent variables, the moderator variables and mediating variables. The objective of the literature reviews is to understand the theoretical underpinning of the constructs, definitions and conceptualizations, dimensions, their origin and evolution, application and linkages, on-going debates, and the current challenges. Once literature reviews for all the constructs are presented in this chapter, the next chapter explains how these reviews are weaved in the form of a model whereby the relationships among them are proposed and studied within certain context. **Part A** of this chapter presents a detailed review on entrepreneurship and **Entrepreneurial Orientation**, **Part B** of this chapter contains the literature review for **Dynamic Capabilities**, **Part C** of this chapter deals with **Environmental Dynamism** concluded by the literature review of **Competitive Advantage** in **Part D** of this chapter.

2.2 PART A- Entrepreneurial Orientation (EO)

Objective of this part of the chapter is to present literature review and theoretical dimensions underlying the construct of entrepreneurial orientation as a predictor of competitive advantage of firms. Entrepreneurship is conceptualized as a multidimensional behavioral construct - “Entrepreneurial Orientation”. To achieve the above objective, the chapter will navigate the conceptual roots of the construct of Entrepreneurship and Entrepreneurial orientation, steer its evolutionary path in the theory to explore its linkages with SME competitive advantage.

2.2.1 Introduction to Part A – Entrepreneurial Orientation Construct

This part of the chapter will discuss the nature, the measurement and the dimensions of EO. Due to multidimensionality of EO, the construct forms connections with many other processes and elements within the firms as well as in the firms’ external environment which demonstrate its coherent effect on competitive advantage. Hence, theory and conceptual underpinnings related to the other variables are also discussed in the review.

2.2.2 History and Evolution of the concept of entrepreneurship

Entrepreneurship is central to the dynamics of capitalism (Baumol, 1993) and entrepreneurs become the 'the driving force of the whole market system' (Mises, 1949). The genesis of entrepreneurship concept and the term 'entrepreneur' is dated back at least to Richard Cantillon (1680-1734), the preliminary author to regard the concept of entrepreneurship (Thomas 1998, Murphy and Murphy, 1986). Cantillon was the first to describe the concept of entrepreneurs and their roles in economic system. According to the Cantillon, an entrepreneur is essentially an 'arbitrager or speculator' who bears the risk associated within the uncertainty. An entrepreneur's main function is to act as an equilibrating force within the economic system by connecting the producers with consumers. Although, the term 'entrepreneur' seems to have been attributed to Cantillon for introducing this into economics, the concept was first made prominent by Say (1803) (Casson, 2003) who described the main function and role of the entrepreneur as allocating and coordinating the resources to their best efficient use. However, the neo-classical theory later neglected this role of entrepreneur because the assumptions of the neo-classical economics theory were rooted in rational behavior conditions (Barreto, 1989) and Neo-Classical economists proposed perfectly competitive market model. However, these economists failed to consider the actual market imperfections and institutional failures in a wide range of countries, including developed economies. Likewise, Knight (1921) proposed the concept related to risk-taking and characterized the entrepreneur as a 'person who takes risk and bears uncertainty'. This explicitly differentiated between risk and uncertainty, unlike Cantillon. Knight considered risk and uncertainty as features affecting all economic agents in a given economy. He argued that entrepreneurship required the ability to deal with uncertainty and in addition, pointed out the role of profit as necessary remuneration for entrepreneurial services. Most importantly, unlike others, Knight pointed out the importance of the prestige and job satisfaction as important factors for entrepreneurial activity.

One root of the concept and literature of entrepreneurship also emanates from the influential Austrian School, especially the works of Schumpeter and Kirzner. In his seminal work on Theory of Economic Development (Schumpeter J, A 1934;191), Schumpeter described entrepreneur as a person who introduces new combinations into the market and contributes to the practice of 'creative destruction'. He defined entrepreneurship from the perspective of his

research on Innovation. The Schumpeterian concept of innovation includes five cases as follows (Schumpeter (1912/1934), p. 66):

- (1) Introduction of a new good which consumers are not yet familiar-or,
- (2) The introduction of a novel method of production,
- (3) The opening of new market which is a non- existent market
- (4) The pursuit of new source of supply of raw materials or partially -manufactured goods, irrespective of whether the source is already in existence or to be created first, and
- (5) The act of conducting new organization of any industry, like the formation of a monopoly position or the destruction of a monopoly position' (1912/1943, p. 66).

Thus, Schumpeter provided a broader definition of entrepreneurship compared to other prior definitions because his definition involves different aspects (i.e. technical, marketing and organizational) of entrepreneurship (Hagedoorn, 1996).

As far as contemporary debates on entrepreneurship are concerned, the studies are found more inclined towards a Schumpeterian view who focused on the role of innovation and creative destruction causing disequilibrium. For example, Drucker (1985) refers to entrepreneurship as innovative and change-oriented characteristics, while Bull and Willard (1993) added the task-oriented motivation, self-gain expectation and expertise as a trait of entrepreneurship. In this parlance, the seminal literature conceptualize entrepreneurship as a function of the different types of people involved in entrepreneurial actions and, to a larger extent, have ignored the role of opportunities (Eckhardt and Shane, 2003). The evidences suggest that some authors conceptualized entrepreneurship (firm level) as generation of new firms or organizations (Lumpkin & Dess, 1996; Gartner, 1988, Low & MacMillan, 1988) while other authors conceptualized entrepreneurship (individual level) as individuals exploiting opportunities by novel combinations of resources in ways which impact the market (Wiklund, 1998).

Besides this, entrepreneurship is also defined from a process point of view indicating that, individuals take initiatives themselves or within an existing firm to pursue opportunities regardless of the resources currently controlled by them (Stevenson & Jarillo, 1990). This perspective later provided entrepreneurship a broader definition known as corporate entrepreneurship or intrapreneurship (the last one previously but implicitly raised by Schumpeter) (Schumpeter 2000, Covin and Miles, 1999). A discussion on corporate entrepreneurship or intrapreneurship is out of scope of this thesis, however.

2.2.3 Focus of entrepreneurship research

The lack of a working, unique and widely accepted definition of entrepreneurship poses a problem for identifying the boundaries with other fields - something which is crucial for entrepreneurship to be established as a research area (Bruyat and Julien, 2001). Hence, the distinctive boundaries of the field of entrepreneurship with other disciplines are still missing and needs to be established (Aldrich and Baker, 2000). The inadequately defined boundaries of entrepreneurship field pose substantial challenges to its legitimacy (Busenitz et al., 2003). Entrepreneurship as a research field consists of extensive range of theories and perspectives. It has been studied in multiple ways with varied purposes and approaches. Several research fields - of social sciences and branches of enterprising science, economics, history, sociology politics, psychology and anthropology - have been the contributing domains in the entrepreneurship field. The research field of entrepreneurship is fast developing, since 2007 (with the exception of 2008), the yearly number of publications has been equal to or greater than 10 articles and (Ferreira, J. J. et, al 2019, Davidsson, 1989, Ronen, 1983; Sexton and Bowman, 1987).

2.2.4 The construct of entrepreneurial orientation

As mentioned earlier, entrepreneurship and entrepreneurial traits are more popularly studied for their effects and outcomes. Because social science researchers utilize constructs which characterize unobservable phenomenon as a manner of organizing knowledge and thereby providing a framework for theory development along with testing, it becomes crucial for the process that there are clearly-defined focal concepts which are first measured and then tested with a high degree of construct validity. This ensures correspondence between the unobservable construct and the means deployed for measuring the construct (Peter, 1981). In this regard, the most popular construct determining entrepreneurial traits is the construct of “entrepreneurial orientation”. Miller was the father of entrepreneurial orientation construct who described this in 1983. This was further modified by Covin and Slevin (1989, 1990) who established and popularized the conceptualization of what it means for a firm to be “entrepreneurial”.

2.2.5. Explicating and contextualizing the construct of entrepreneurial orientation

In the business scenario at present, there is more than ever connectedness among the elements of the business ecosystems – markets, economies, firm and the surrounding environment. The boundaries guarding each of the elements have become more permeable due to the advent of digitalization and emergent new age technologies. The resultant interactions among the elements in the ecosystems have become complex, chaotic, and fast-paced. In this regard, popular theories and frameworks such as strategic orientation of firms (proposed by Miles and Snow, 1978), generic strategies and five forces framework for firm competitiveness (Porter, 1980) may be useful but not sufficient to sustain firms' competitive advantage. Rapidly-changing environment warrants imperatives of outflow of novel products, services, process and business models. This needs pro-activeness to sense and respond, ability to move out of firms' comfort zones and make risky business decisions, and a propensity to create and manage innovation within the organizations. Thus, the mandate for the current business environment is the amalgam of entrepreneurial traits with strategic orientation and effective strategic processes.

The objective of this part of the chapter is to explain the definition, operationalization and measurement arguments connected with the construct of entrepreneurial orientation. The discussion evolves from theoretical underpinning of strategic management and entrepreneurship literature exhaustively discussed previously.

2.2.5.1 Conceptual roots and Definition

This section presents definition of Entrepreneurial Orientation construct from different but relevant perspectives. Entrepreneurial stance was first introduced by Mintzberg in 1973. His research described “the entrepreneurial mode” as one of the modes of strategy-making (in addition to planning and adaptive modes). Miller and Friesen (1978, 1982) included elements of “the entrepreneurial conglomerate” as one among the strategy archetypes.

Effective research into the dynamics of theoretical concept of entrepreneurship is possible only if there is a construct developed to represent entrepreneurial intentions and behavioral pursuits, and has substantial theoretical foundation. According to George (2011) and as claimed by Miller (1983), entrepreneurship orientation is regarded as a multidimensional concept,

involving actions relating to innovation, risk-taking and pro-activeness. Miller (1983) also suggested that an entrepreneurial firm is the one which innovates in product /market domains, carries out actions that are somewhat risky, and pioneers in proactive innovation prior to the competitors. Accordingly, the conception of the construct has been traced back to the works of Mintzberg (1973) as well as Khandwalla (1977), and their research claimed that entrepreneurial firms were prone to taking more risks, and were more proactive in exploring novel business opportunities compared to other firms. EO as a construct also refers to a set of cognitive traits, characteristics and opinions/biases that are associated with disposition to engage in entrepreneurial pursuits (McClelland, 1962).

EO has evolved as a fundamental concept in entrepreneurship and strategy fields that has gained considerable amount of theoretical and empirical attention (Covin et. al., 2006; George, 2011, Covin and Lumpkin, 2011). It is also instrumental in firm-level entrepreneurship research literature. It attempts to determine the “entrepreneurial-ness’ of the firm at the core (Lumpkin, 2011). It helps in identifying the factors by which a firm could be known as entrepreneurial on the basis of being requisite (Miller, 1983) or relevant (Lumpkin & Dess, 1996). Thus, Entrepreneurial Orientation could be classified as one of the significant attributes of firms. The credibility of EO as a construct in entrepreneurship research literature has given it a stature of an overall strategic posture of firms. In Strategic Management literature, entrepreneurship research and evolutionary theory of the firm have recognized a strong linkage of EO with firms’ overall growth and sustainability. (Burgelman, 1991; Nelson & Winter, 1982). For businesses at present that are faced with a complex, dynamic and less predictable environment, most organizations are affected by environments whereby subverting factors like technical innovation, globalization and entrepreneurial actions operate with larger occurrence (Schreyögg and Sydow, 2010; Wiggins and Ruefli, 2005). As a result, business landscape manifests shorter product lifecycles, continuous innovations in the marketplace, and eroding sources of advantage. This creates an impending challenge of continuous re-invention of sources of competitive advantage (Eisenhardt & Sull, 2001). Consequently, EO has proved a value adding construct which provides understanding of the reasons and the mechanism of why some of firms, unlike others, are able to regularly renew themselves through new growth paths (Morris et. al., 2011).

Entrepreneurial orientation is broadly consisting of processes, configurations and behaviors of firms manifested by pro-activeness, innovativeness, risk-taking, autonomy and competitive aggressiveness, which together facilitates the pursuit of opportunities (Lumpkin et al., 2009, Lumpkin and Dess, 1996). Thus, this thesis defines EO as “*processes, structures, and behaviors of firms that are characterized by innovativeness, pro-activeness and risk taking*” (Covin & Slevin, 1989, Miller 1983). Table 2.1 lists definitions of entrepreneurial orientation as proposed by prior studies.

Table: 2.1 Definitions of the construct of entrepreneurial orientation

Author	Definitions
Mintzberg (1973)	“In the entrepreneurial mode, strategy-making is dominated by the active search for new opportunities” as well as “dramatic leaps forward in the face of uncertainty” (p. 45).
Khandwalla (1976/1977)	“The entrepreneurial [management] style is characterized by bold, risky, aggressive decision-making”(p.25)
Miller and Friesen (1982)	“The entrepreneurial model applies to firms that innovate boldly and regularly while taking considerable risks in their product-market strategies” (p. 5).
Miller (1983)	“An entrepreneurial firm is one that engages in product-market innovation, undertakes somewhat risky ventures, and is first to come up with ‘proactive’ innovations, beating competitors to the punch” (p. 771).
Morris and Paul (1987)	“An entrepreneurial firm is one with decision-making norms that emphasize proactive, innovative strategies that contain an element of risk” (p. 249)
Covin and Slevin (1998)	“Entrepreneurial firms are those in which the top managers have entrepreneurial management styles, as evidenced by the firms’ strategic decisions and operating management philosophies. Non-entrepreneurial or conservative firms are those in which the top management style is decidedly risk-averse, non-innovative, and passive or reactive” (p. 218)
Merz and Sauber (1995)	“. . . entrepreneurial orientation is defined as the firm’s degree of proactiveness (aggressiveness) in its chosen product-market unit (PMU) and its willingness to innovate and create new offerings” (p. 554)
Lumpkin and Dess (1996)	“EO refers to the processes, practices, and decision-making activities that lead to new entry” as characterized by one, or more of the following dimensions: “a propensity to act autonomously, a willingness to innovate and take-risks, and a tendency to be aggressive toward competitors and proactive relative to marketplace opportunities” (pp. 136–137).
Zahra and Neubaum (1998)	EO is “the sum total of a firm’s radical innovation, proactive strategic action, and risk-taking activities that are manifested in support of projects with uncertain outcomes” (p. 124).

Voss, Voss, and Moorman (2005)	“. . . we define EO as a firm-level disposition to engage in behaviors [reflecting risk-taking, innovativeness, pro-activeness, autonomy, and competitive aggressiveness] that lead to change in the organization or marketplace” (p. 1134, [] added).
Avlonitis and Salavou (2007)	“EO constitutes an organizational phenomenon that reflects a managerial capability by which firms embark on proactive and aggressive initiatives to alter the competitive scene to their advantage” (p. 567).
Cools and Van den Broeck (2007/2008)	“Entrepreneurial orientation (EO) refers to the top management’s strategy in relation to innovativeness, proactiveness, and risk taking” (p. 27).
Pearce, Fritz, and Davis (2010)	“An EO is conceptualized as a set of distinct but related behaviors that have the qualities of innovativeness, pro-activeness, competitive aggressiveness, risk taking, and autonomy” (p. 219).
	((adopted from Covin & Wales et.al. 2011) till here
(Lechner and Gudmundsson, 2014)	EO is defined as the processes, structures and behaviors of firms characterized by innovativeness, proactiveness, risk-taking, competitive aggressiveness and autonomy

2.2.5.2 Dimensions of Entrepreneurial Orientation

EO as a construct can be expressed as a continuous variable or set of variables as represented by one or more dimensions on the basis of which all firms can be gauged. This continuity in the nature of EO’s dimensions (which is dependent on the conceptualization of the construct) facilitates researchers to theorize and operationalize the extent of the entrepreneurship traits exhibited by a firm. In practice, firms indulge in specific business actions (e.g. acquiring external start-ups, internal corporate venturing). These actions (or, entrepreneurial strategies) vary from firm to firm and can be useful determinants of entrepreneurial disposition levels across firms. This disposition can be observed by way of an outlook or orientation a firm has in its entrepreneurial pursuits. Therefore, EO as a construct provides research scholars a common parameter through which overall entrepreneurship level could be determined and assessed.

In summary, EO is an important and value-adding construct in strategic management and entrepreneurship research dialogue because it inhabits a conceptual space that is different from that of other entrepreneurial phenomena. Important to note that, EO is not just another tag for a firm’s entrepreneurial climate or culture and neither it is a simple sporadic, singular,

entrepreneurial event (.e.g. introducing an innovative new product service or entering into new markets). EO is, in fact, representative of behaviors or attributes that are common in any firm that passes the theoretical litmus test of demonstrating entrepreneurship. Following Miller (1983) in this thesis, the concept of EO is described as a combination of three spans.

2.2.5.2.1 Innovativeness

Innovation is the base of entrepreneurship (Drucker, 1985; Filion, 1997). Whether firms develop new products or design new services, innovation is the lifeblood of any entrepreneurially-oriented firms. Innovativeness is one of the chief components of EO as it introduces value adding newness to the firms. Wiklund and Shepherd (2005) defined innovativeness as a decision-making style that shows intentions to rejuvenate market offerings. Miller and Friesen (1983:222) conceptualized innovativeness as a broad dimension of EO, exhibited from the trait to introduce new products/services and enter new markets. It reflects firms' orientation to engage in generating new ideas, experimentation, new processes and business models and changes in the firms' R&D domain (Lou & Fayolle, 2005). It includes fostering and developing new ideas, experimentation and creativity resulting into differential products/services, models or processes (Miller and Friesen, 1982). It also includes attempts for creativity, experimentation, technological pioneering, and newness in products and/or processes (Lyon, Lumpkin and Dess, 2000). Covin *et al* (2006:57) claims that innovativeness is an element of the entrepreneurial label with respect to overall business operations. Covin and Slevin (1991:10) argued that innovativeness is manifested in firm-level behavior that results into the frequency of innovations in product/service and propensity towards technological leadership. Thus, innovation –is an important dimension of the EO construct.

2.2.5.2.2 Risk taking

Most types of business activities involve some degree of risk. Risk is a different phenomenon than uncertainty (Schumpeter, 1934). From firm's perspective, risk-taking refers to venturing into a decision without certainty of results and profits. Risk-taking is essentially the conviction and the entrepreneur's willingness to undertake 'calculated' risks (Brockhaus, 1980; 1982). It comprises of activities such as heavy investments/borrowing, committing a high level of resources to projects (Lyon, Lumpkin and Dess, 2000; Amit, Glosten and Muller, 1990). It also includes a firms' inclination to bear large and risky resource commitments towards the

uncertain outcomes of ventures undertaken (Miller and Freisen, 1978; Miller 1983). Risk-taking element in the EO includes the contentious aspect of evaluating the degree to which firms differ in their willingness (Lumpkin and Dess, 1996). Risk-taking is considered as proclivity towards high return initiatives with underlying probability of failure (Hamed and Ali, 2011). The extant relevant literature discusses elements of entrepreneurial risk inherent in strategic decision-making for new firms' entry in a market, product and process development and improvisation under uncertainty along with potential for gain or loss (Cornwall & Perlman, 1990). Miller and Friesen (1983:234) differentiated between risk-aversity and risky resource commitments. Citing the work of Covin and Slevin (1991: 13), Geller (1980) and Gupta and Govindarajan (1982) claimed that defensive strategy warrants a conservative management style, whereas in case of growth strategy, an organization-wide risk-taking propensity is determined by management's commitment to be 'highly venturesome'. For SMEs, risk-taking ability is determined by the degree the firm shapes its internal operations either to 'capitalize' risk or to prevent it Wiklund and Shepherd (2005:86).

2.2.5.2.3 Pro-activeness

Proactivity is assertive and deliberate strategy-making (Miller, 1987). Proactiveness indicates pioneering disposition of the firms (Covin and Slevin, 1991:10). Proactiveness includes the traits and initiatives with the objective of securing and protecting share of the market with a forward-looking outlook manifested in action taken based on insights of future demand (Miller, 1983; Covin and Slevin, 1989; Lumpkin and Dess, 1996). Proactiveness manifests an aggressive orientation leaping one step forward than competitor firms, grabbing favorable business opportunities ahead of others (Stevenson and Jarillo, 1990. Proactive firms fall in the "leader" category than the "follower" category and this is reflected in the initiatives and decisions the firms take in adapting themselves to the external environmental changes (e.g., new products and services introduced, new processes undertaken or new business models) (Miller and Friesen, 1983:222). These 'first - mover' firms were capable of bestowing substantial advantages over firms that were followers (Lieberman and Montgomery, 1988). Proactiveness determines a firm's ability to benefit from relevant opportunities such as introducing new products, services, technologies and management practices with the objective of securing competitive advantage (Hamed and Ali, 2011). Proactivity peeps in the future, generates an idea, undertakes responsibility, communicates effectively, anticipates and prevents issues and challenges, ensures flexibility and adaptability, and perseveres via new

process and product launch initiatives (Morris and Kuratko, 2002). For research objectives of this thesis, the elements of autonomy are included in the proactiveness dimension of entrepreneurial orientation.

2.2.5.3 The debates on dimensionality of Entrepreneurial Orientation

There have been scholarly debates on nature of the construct, its dimensions (Knight, 1997; Lumpkin & Dess, 1996), the interdependence and relationship of the dimensions (Dess et al 1999), its nature (Morris & Paul, 1987), and the theoretical relationships between the construct, their antecedent and consequent constructs (George, 2011). For multi-dimensional constructs, their conceptualization and meaning are usually either reflected in their dimensions or measures, or are formed or created from them. Hence, there are two primary ways of how EO construct has been conceptualized. First, it is a composite of unidimensional construct which is generally associated with the work of Miller (1983) and Covin and Slevin (1989). Second, it is a multidimensional construct (Lumpkin and Dess, 1996). In the unidimensional view of EO, the construct (latent) is understood to exist only to the extent that pro-activeness, innovativeness and risk taking are concurrently demonstrated by the firm. It can be inferred from that above that the exposition of only one or two of these dimensions would be insufficient and unconvincing to make the firm entrepreneurial. This also implies that firms exhibiting high degrees on these dimensions are considered 'entrepreneurial'. This perspective has been adopted by majority of entrepreneurship scholars (George B.A, 2011, Rauch *et al*, 2009) that use an entrepreneurial orientation in their research. When quantified, Entrepreneurial Orientation is the common variance or shared variance among risk taking, innovativeness, and pro-activeness. Hence, under the uni- dimensional conceptualization, EO can be regarded as a sustained firm-level quality represented by the singular attribute that proactive, innovative and risk-taking behaviors share in common.

On the other side, the multidimensional approach considers different impact of individual dimensions on EO's outcome variables such as competitive advantage (Kreiser, Marino and Weaver, 2002; Lumpkin and Dess, 2002). It also takes into account the variability among different construct elements and how this degree of change affects the dependent variable. Most research scholars propose the dimensions of entrepreneurial orientation as risk taking (Brockhaus, 1980; Busenitz, 1999; McClelland, 1960; 1964), innovation (Covin and Miles, 1999; Schollhammer, 1982; Schumpeter, 1934) or pro-activeness (Lumpkin and Dess, 2001;

Stevenson and Jarillo, 1990). Because, these dimensions contribute individually to the entrepreneurial process, the unidimensional perspective may not take into consideration the relationship between sub dimensions as well (Kreiser, Marino and Weaver, 2002: 79).

According to Dess et.al: 1999 " ... an appreciation of the multidimensionality and independence of the sub-dimensions of an entrepreneurial orientation can enhance normative and descriptive theory building" (Dess et al., 1999:19).

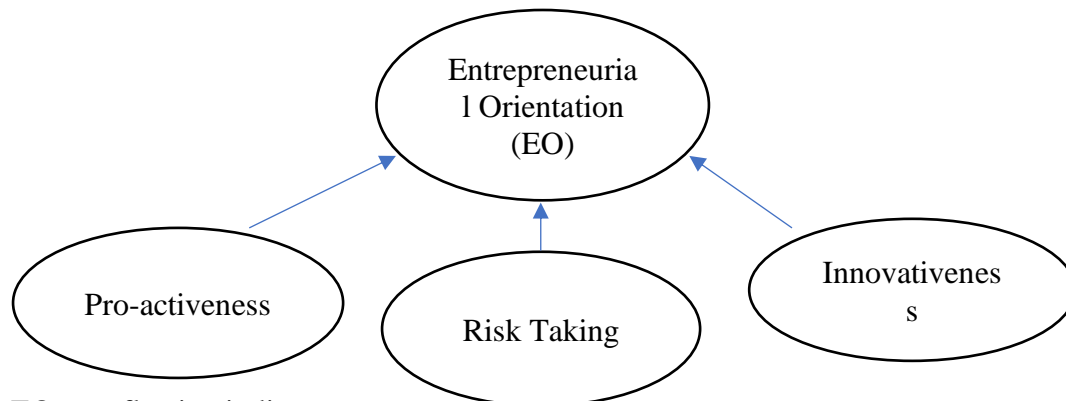
In this thesis, The research will empirically and statistically investigate both the unidimensional and multi-dimensional nature of EO that will be presented by the Model fit summary of exploratory and confirmatory factor analyses. However, for operational purposes of this research, EO is treated as a multidimensional construct.

2.2.5.4 Formative and reflective indicators in the context of construct of entrepreneurial orientation.

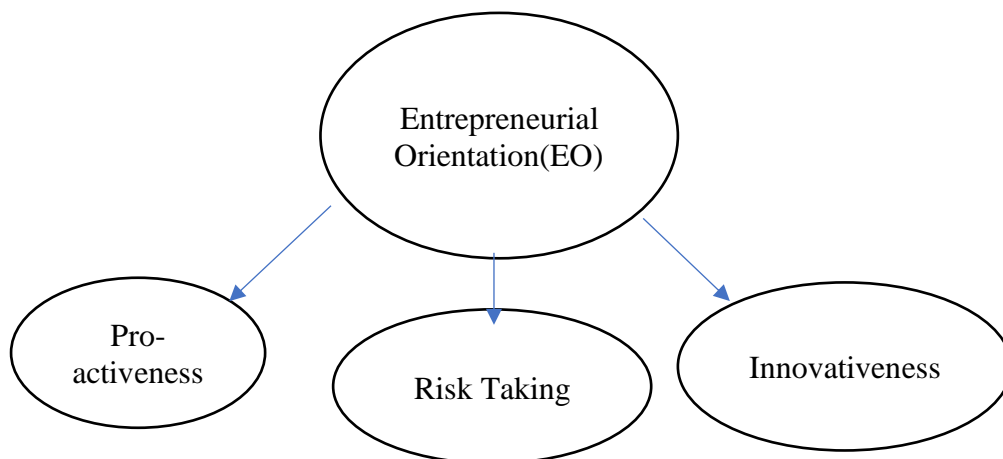
Latent variables have been popularly used by organizational research scholars in both intra- and inter-organizational relationships research (Stone Romero, Weaver and Glenar, 1995; Scandura and Williams, 2000). In majority of instances, reflective (effect) indicators are used to measure latent variables (James and Jones, 1980; Hogan and Martell, 1987; Morrison, 2002; Ramamoorthy and Flood, 2004; Sarros et al., 2001; Schaubroeck and Lam, 2002; Subramani and Venkatraman, 2003; Tihanyi et al., 2003). The indicators are appreciated as functions of the latent variables where changes in the latent variable are reflected in changes in the observed indicators. On the other hand, MacCallum and Browne pointed out that in many cases, indicators could be observed as causing (instead of being caused by) the latent variable measured by the indicators (Mac Callum and Browne, 1993). In such cases, the indicators are known as formative (or causal) in nature wherein the variation in the indicators determine variation in the value of the latent variable rather than the other way around (Jarvis et.al, 2003). The above concepts are explained as follows:

Figure 2.1 Formative and Reflective Indicators in EO construct

A: EO as a formative indicator



B: EO as reflective indicator



Lumpkin and Dess (1996) described EO as a superordinate construct that branches out with dimensions of innovativeness, risk-taking, pro-activeness, autonomy and competitive aggressiveness. These constructs function by way of specific manifestations of EO.

As per this conceptualization, EO is present in practice either as a set of independent behavioral scores (ranging from low to high) across these three dimensions, or as a collective profile or gestalt formed by these five dimensions. In order to identify a more theoretically defensible approach, researchers have often considered the two conceptualizations of EO in comparison (Basso et. Al., 2009). This research believes that the uni-dimensional and multidimensional conceptualizations of EO are fundamentally different which need separate definitions and also appropriate measurement models for each dimension (Covin and Wales,

2011). The conceptualizations of the construct may lead to theoretically and practically significant contributions to the EO knowledge base which is the purpose of this thesis. In the thesis, there is no persuasion to consider the adoption of one EO conceptualization at the expense of the other. It is anticipated in the thesis that future EO research will not be considered constrained or otherwise judged adversely if only one conceptualization of EO is used. In short, as a path forward, this thesis believes that EO researchers will be benefitted by recognizing the distinctiveness of these two conceptualizations, and by explicitly acknowledging and defending the specific conceptualization being adopted in their research.

2.2.6. EO and SME competitive advantage Inquiry

The above sub-topic deals with the inquiry as to why there should be a positive association between entrepreneurial orientation and competitive advantage and the purpose of studying this relationship. As discussed in detail, EO has been referred as a competitive advantage benefactor as well as a credible variable as inter firm performance differential. Despite significant conceptual and empirical research on EO construct which suggest a strong association and positive effect of EO on firm competitive advantage, a confusion remains in the literature with regard to the contexts and settings under which EO amplifies competitive advantage. Because this is an important bearing to managerial implications and practice prescriptions, this thesis contributes to knowledge pool in proposing novel contexts and relationships of EO to firm competitive advantage.

The posture of entrepreneurship, particularly in SME context is researched with the intent and proposition that it is helpful for SMEs to provide ability to withstand competitive forces by its attributes of risk-taking, proactiveness and innovativeness. By behaving in entrepreneurial manner, entrepreneurial firms lead rather than follow (Khandwalla, 1977) and , they are able to achieve their performance objectives (Covin and Slevin, 1991). These prominent dimensions of *entrepreneurial orientation* traits and processes (Smart and Conant, 1994; Miles and Arnold, 1991) are represented by way of traits and processes that contribute positively to competitive advantage.

As an overview, prior studies illustrated a positive effect of these EO dimensions on firm performance (Zahra, 1991; Zahra & Covin, 1995). The phenomena of time and change in

industry and organizational life cycle cause the products, services, technology and firm competencies to be redundant. Hence, the entrepreneurially-oriented firms (that possesses pro-activeness, risk-taking, and innovativeness) are more capable to succeed over their competitors.

The effects of an entrepreneurial orientation on competitive advantage are positive across a variety of organizational settings, cultural contexts and research schemes (Rauch et. al., 2009). However, , the extent of this relationship varies across studies and contexts (Rauch et. al., 2009:764). EO's link to competitive advantage has been the focal area of study encompassing both financial as well as non-financial performance indicators. However, whereas the former has been extensively researched but the later has been under-researched. It will require a lot more than only the main effects model to understand the complex relationship associating EO and competitive advantage because several exogenous or internal factors, internal as well as external to the firms, may act as potential intermediates of the relationship that influence the dependent variable chosen (Wiklund and Shepherd, 2005:78; Lumpkin and Dess, 1996). This justifies the need for integrative studies that research the effects of EO on competitive advantage including few effective moderating and mediating variables to offer a comprehensive understanding of the phenomenon in question.

2.2.6.1 EO and Performance outcomes literature underpinning

This sub-section follows a systematic and scholarly order to present a literature review on relationships between EO and its performance outcomes discussed in literature. A general, uncontested positive linkage between EO and firm performance has been widely acknowledged by scholars worldwide (Merz, Weber and Laetz, 1994; Covin and Slevin, 1991; Slevin and Covin, 1990) and comprehensive consensus suggests a strong and positive influence of entrepreneurial orientation for firm performance (e.g. Rauch et. al., 2009, Baker and Sinkula, 2009, Kuivalainen et al., 2007; Madsen, 2007; Wiklund and Shepherd, 2005; Sadler-Smith et. al., 2003; Zahra & Covin, 1995). By utilizing EO, firms meet the latent and new needs of market. However, the empirical results seem to be contrasting. The EO construct is related with the new market prospects and the renewal of existing domains of operation (Hult and Ketchen, 2001) which are the drivers of superior performance. Realizing its importance, researchers, off late, have been incorporated entrepreneurship in strategic management domain (Alvarez and Barney, 2004; 2001). A strong link is yet to be established but multiple researches have utilized

this approach. Covin and Slevin (1988; 1989) are among the pioneers of the EO performance research in strategic management domain. They proposed a conceptual model showing EO as a firm behavioural trait and its linkage with performance as a promising potential research avenue. Thereafter, many authors concurred to the positive influence of EO to firm performance (Slevin and Covin, 1990; Covin and Slevin, 1991; Merz et al. 1994). Zahra and Covin (1995) claimed that the relationship between EO and performance is not only positive but also becomes effective over time. Thereafter, few scholars also argued that the EO and firm performance relationship is subject to influence or moderation effects of dynamism in external environment (Kim, H. J., & Kim, B. K., 2016, Becherer & Maurer, 1997). Wiklund, 1999 based on his doctoral work on longitudinal research claimed that entrepreneurial orientation as a trait is like a “muscle” to SMEs’ foundation which enhances its strength and vision to explore profitable outcomes and reap revenues. Barringer & Bluedorn (1999) acknowledged that strategy practices are influenced from how intensively a SME cultivates its entrepreneurial orientation. The intensity of research on entrepreneurial orientation increased between 2000 and 2006 with 34 peer reviewed publications (Rauch *et.al*, 2009). Dimitratos *et. al.*, 2004 researched entrepreneurship - performance relationship in international business environment context of SMEs in Greece and attempted to model the configurational and contingency effects of international as well as domestic environments. They demonstrated that domestic country uncertainty positively enhances the effect of entrepreneurship on international performance. This emphasizes the transformational capacity of an entrepreneurial orientation when attention is based on international performance whereas the environment again is seen as a key influencer. Wiklund and Shepherd (2005) demonstrated a series of interactions and configurational models of entrepreneurial orientation on SME performance to highlight the interplay among posture, performance, environment and internal influences. Each of their models (main, interaction and configurational) were positively related to SME performance, adding to the growing body of evidence which indicated that indeed processes related to *entrepreneurial strategy making* should correlate to SME competitive advantage. Poon et. al. (2006) utilised a path analysis to test for direct as well as indirect effects of entrepreneurial orientation on performance. Their findings linked the psychological concept of entrepreneurship research (McClelland, 1962, 1964; 1965) and particularly the locus of control and self-efficacy components that in conjunction with an entrepreneurial orientation have performance implications. Appendix A summarises the prior studies of the EO-Performance relationship.

2.2.6.2 EO and firm performance – scope of exploring other aspects affecting firm performance

It is well understood that 'performance' represents a very interesting dependent variable for any examination within the realm of management studies. It is multifaceted, broadly-labelled and extremely diverse (Combs *et al.*, 2005; Venkatraman & Ramanujam, 1986). The most salient distinction regarding performance dimensions is between financial and non-financial performance, tapping into different conceptual levels as the former represents aspects of profitability whereas the latter represents aspects closer to growth (Woo and Willard, 1983; Rowe and Morrow, 1999; Combs *et al.*, 2005). As an overview of the examined literature, it is wise to mention that performance dimensionality is an aspect that requires conceptual confinement (Ray *et al.*, 2013) while performance dimensions are both conceptually and statistically related (Rowe and Morrow, 1999; Combs *et al.*, 2005). SME owners/senior managers make decisions and manage their firm in the manner in which they 'conceive' or conceptualize firm performance for themselves and their firm rather than being governed by experts' or researchers' conceptualizations of small business performance (Achtenhagen, Naldi, and Melin, 2010). So, this thesis discusses here the concerns regarding the dimensionality of organisational performance. The vast majority of examined research that investigated the EO - firm performance linkage emphasized on financial measures, as manifestations of profitability. The inherent notion from the literature assessment above is that the relationship is indeed under researched and empirical demonstrations are scarce. While prior research have found either smaller effect size of EO on non-financial measures of performance (e.g. Rauch *et al.*, 2009), or statistical significance of fewer dimensions of EO (e.g. Swierczek and Ha, 2003 for proactiveness and innovativeness; Avlonitis and Salavou, 2007 for proctiveness), this thesis questions this assertion at the analytical stage of inquiry. Other prior studies studying EO-performance relationship have rather examined and found moderating roles of EO for determinants of nonfinancial performance e.g. perceptual measure (Bhuian *et al.*, 2005) and international performance Dimitratos *et al.* (2004). Differences between assessment of EO and different performance metrics are advocated both on a conceptual basis and on the magnitude of the association between the two. Thus, this thesis argues and examines competitive advantage as performance outcome . And, this way, the research effort contributes substantially to better understand, both the uni-dimensional and multidimensional, facets of EO. The following paragraphs explain in detail why this effort is necessary and value adding

2.2.6.2.1 Analysing EO relationship effect Firm Performance Vs. Competitive advantage

As explained in earlier parts of theses, quite a few meta-studies claim positive effect of entrepreneurial orientation (EO) on firm performance (Rauch et. al 2009, Saeed, Yousafzai, & Engelen, 2014, Javalgi & Todd, 2011). The focus of most research has been on the direct and linear effect of EO on firm performance (Edmond & Wiklund, 2010; Wales, Gupta, & Mousa, 2013). Further to that it was critiqued that the direct linear relationship between EO and firm performance seems to be an over-simplification that can be challenged (Andersén, 2010; Wiklund & Shepherd, 2005). Rather than increasing performance, EO was able to increase variability in performance. (Patel, Kohtamäki, Parida, and Wincent, 2015) This questioned the linearity of EO to firm performance (Wiklund & Shepherd, 2011)

Wales et al. 2013 claim that additional knowledge on the causal mechanisms of how EO is associated with other firm aspects is helpful. According to Porter, 1980 a firm can perform better if either offers lower costs or differentiated products compared to what its competitors offer. Hence the performance effects of EO cannot be considered in isolation and has the element of possessing competitive advantage at a certain point of time (Moreno & Casillas, 2008, Eggers, Hansen, & Davis, 2011; Tang & Hull, 2012). Matching a firm's EO posture to its competitive strategy appropriately however, might enhance the performance (Lechner & Gudmundsson, 2014).

Walter, Auer and Ritter (2006) indicated that EO fosters competitive advantages and positive performance. There has been ambiguity and interchangeability in the use of term competitive advantage and firm performance. The concept of Competitive advantage yet remains poorly operationalized and defined. Competitive advantage is relational, context specific and does not equate with firm performance Ma, H. (2000).

In this thesis the focus is on SME firms. The key question to consider for SMEs is what matters more – competitive advantage or firm performance? Accordingly impetus can be given on the choice of the dependent variable for EO as a predictor variable. According to Fletcher 2000, 75% of SMEs are owner-managed, hence they are not under pressure from shareholders to increase profit and turnover. Increased competitive advantage for owner-managed SME firms need not necessarily be linked to increases in profits or turnover but rather focus on

supplying better value or cost effective products/services to customers (Jones, O.,2003). Hence it is felt that understanding effect of EO on competitive advantage will be more interesting to research as it will have direct or indirect bearing on firm performance in short or long term and it gels well with other variables of overall research framework.

In the past few years, research in the entrepreneurial orientation and firms' competitive advantage relationship started to turn its focus towards identifying contingencies that influence the relationship thematically (e.g. endogenous and exogenous influences) through the examination of the nature of unit-dimensional and multidimensional conceptualisations of EO. A study that demonstrates this thematic 'shift' in attention - inherently discussing the different physiognomy of smaller organisations and their entrepreneurial orientation - is Stam and Elfring's (2008) research where scholars stress the importance of intra and extra industry social capital to illustrate how social ties shape and eventually formulate the performance of new ventures. Such a conceptualisation between the societal ties of entrepreneurial activity represents a fruitful future research avenue. More than just being entrepreneurial, firms need to align EO to the strategic intent of the firm (Lechner & Gudmundsson, 2014). This is typically important for SMEs that often compete in niche markets where growth potential is constrained and competitive advantage is crucial (Darcy et.al, 2014). This thesis has one of the objectives to replicate this relationship in Indian SME context as the earlier studies (cited previously) conducted research on huge sample of micro, small and medium enterprise. Thus, one can assume wisely that there is a convergence in the theme that SMEs in particular are benefited from adopting an innovative, risk taking and proactive posture.

2.2.7. Summary of EO literature review

The objective of this chapter was to introduce the concept of entrepreneurial orientation as a fundamental SMEs' strategic intent, discuss its conceptual roots, research applications and most importantly - for serving the purposes of this study - identify and extend the dimensionality juxtaposition into a logically viable, observable and measurable strategy making process. This is a salient detail that has been exemplified in theoretical examinations of the axis between strategy and decision-making literatures which emphasised the construct's multi-dimensional and uni-dimensional applicability for firms. The overarching notion is that the trio as dimensions of innovativeness, pro-activeness and risk-taking could trigger positive

performance outcomes for firms yet despite palpable assumptions, empirical demonstration of these claims remain uncertain when research is embracing nonfinancial measures of performance. Such an examination would be beneficial for decomposition purposes regarding the value and situational applicability of each dimension separately, representing on the one hand task-oriented problem solving 'tactics' while the unified conceptualisation corresponding to a broader strategy making process, on the other.

Linking literature review of entrepreneurial orientation with literature review of dynamic capability that follows, a fruitful empirical synergy would emerge if research attempts to examine the applicability and conditionality of entrepreneurial orientation with SMEs' *dynamic capabilities*. Such an integration of perspectives is unarguably beneficial for developing a set of empirical contingencies, asserting their associations with firm outcomes.

2.3 The concept of Environmental dynamism (ED)

Environmental dynamism is a widely-explored construct in the entrepreneurship and strategy literatures. It denotes the degree of instability or turbulence of components in the firms' ecosystem, its industry and market settings, including technological, social, political and economic forces (Dess and Beard, 1984).

The basic concept of environmental dynamism deals with any changes in firm's external environment. Research suggests that many organizations inhabit ever more dynamic environments where subverting forces like technological innovation, globalized competition, and entrepreneurial action operate with larger frequency (Schreyögg & Sydow, 2010; Wiggins & Ruefli, 2005). Environmental dynamism destabilizes a firms' competitive environment. It creates high uncertainty which makes it challenging to understand and strategize firms' dynamic interactions with external environment (Sirmon et. al., 2007; Milliken, 1987; Duncan, 1972). Environmental dynamism, as a construct, has a four-dimensional view encompassing unpredictability, complexity, velocity and ambiguity (Davis, Eisenhardt, and Bingham, 2009) The central theme in all these terms is unpredictable change. The literature review of environmental dynamism in reference to other constructs has been discussed in the following sections. Contemporary research gives impetus to the character of environmental dynamism as a potentially significant contextual variable (Helfat and Winter, 2011; Helfat et al., 2007; Zahra et al. 2006). For a credible description of environmental dynamism, the research builds on

Miller and Friesen's (1983) belief that considers both unpredictability (uncertainty) and volatility (rate and amount of change) as basic traits of environmental dynamism.

2.4 Part B- Dynamic Capabilities (DC)

2.4.1 The (entrepreneurial) SME and Dynamic Capabilities (DC)

The intent of this part of the chapter is to introduce and understanding of the dynamic capability concept within the setting of SMEs. Dynamic capability concept is one of the most contemporary themes emanating from the traditions of resource-based view (RBV) of the firm. This part of the chapter explains the operational definition of dynamic capabilities as follows:

“the distinctive higher order knowledge-based SME capabilities which repose inside the firms and has propensity to change, renew, regenerate and transform firm resources for getting continuously improvised stream of products, services, processes and business models thus providing sustained competitive advantage”

Dynamic capabilities are over and above firms' substantive capabilities that are developed over time. While the substantive capabilities help firms earn a decent living, dynamic capabilities help them to sustain and enhance the living. Dynamic capabilities are incremental, renewing and regenerative in nature. Dynamic capabilities remain knowledge-driven formed of routines and processes, which involves iterative experimentation. This part of the chapter presents a theory regarding the second literature theme (the nature of *dynamic capabilities*) of this thesis, that is addressed from the its second research objective, corresponding to research questions 4 (RQ4) and 5 (RQ5) as mentioned in parts 1.1, 1.2, 1.3.

2.4.2. Granular Understanding of Dynamic Capabilities

This part of the chapter highlights the utmost importance of clarifying the context and the nature of SMEs as host to dynamic capabilities. This thesis buttresses the distinctive notion of SMEs, and establishes a clear need to understand nature and character of dynamic capabilities of smaller organizations by drawing explicit distinctions with those in large firms. Dynamic capabilities have been assessed on the basis of their advanced sensing, knowledge processing and decision-making, transforming and re-configuring abilities. It is an attempt to house these capabilities in conceptual model encapsulated with the nature of SMEs, and to examine their association with entrepreneurship and SMEs' competitive advantage under dynamic

environmental conditions. So, the conceptual framework in this thesis aims to examine their associations with entrepreneurship and competitive advantage. As a result, this would put forth a novel and contextual view, and provide a clarity in the fragmented and inconsistent contextual research gaps in dynamic capability literature.

Most of the studies on dynamic capability concept are conducted for large firms (e.g. Barreto, 2010; Teece, 2007; Wang and Ahmed, 2000). However, the research findings large firms context are difficult to generalize for SMEs. This is attributed to fundamental differences between their business models, structure systems, processes, and needs. Thus, SMEs are not necessarily the smaller versions of larger firms (Penrose, 1959; Gibb, 2000). Smaller firms are less likely to have the culture, routines and processes of larger firms with regards to the identification, integration, assimilation and deployment of new knowledge (Jones et. al., 2007). Hence, the research stream of dynamic capabilities in SMEs is a distinct offshoot of dynamic capability theme. There is sparse literature on the relationships concerning dynamic capabilities and SMEs in all the domains. Hence, this thesis is an attempt to bridge the gap with credible findings in the domain of emergence and effects of dynamic capabilities in SMEs.

2.4.3. Resource-based view within the context of internal aspects of SME

The objective of this part of the chapter is to present the thesis's understanding about the entrepreneurial SMEs i.e. what is an (entrepreneurial) SME meant in terms of its nature and characteristics? This becomes the basic premise of any further investigations on small (entrepreneurial) firm as a unit of analysis in this thesis. This part of chapter focuses on the intrinsic nature of SMEs' resources as they perform a formative part in firms' growth. The notion of resource-based view has been attributed to Edith Penrose's book published in 1959 titled '*The Theory of the Growth of the Firm (TGF)*'. Accordingly, Penrose asserted that a firm consists of assembly "*of productive resources used for the purpose of supply of goods and services to the economy according to plans developed and executed within the firm*". She claimed that unused but productive resources are "a *selective force 'for defining the direction of expansion*" and competitive advantage. Further to this, she emphasized that heterogeneity of capabilities proliferated from resources has a propensity to give a firm its distinct character. Penrose indeed provided seminal contribution to RBV, the dynamic capabilities view and the knowledge management view (Pitelis, 2009, 2011). Thus, in SME's context, it is the clever and novel recombination of limited resources which provides a capability edge to cut across competition and fast paced environmental dynamism.

The terminology of 'resource-based view' was conceived by Wernerfelt (1984) whereby he characterized firms as collections of resources as opposed to conventional product-market position combinations. Wernerfelt defined a resource as being anything which is the strength or weakness of the firm. His research in 1995 studied the association between resources and profitability that essentially found 'articulation of the conditions under which a firm's resources could be used to generate rents' (Bowman et. al., 2002). He also claimed that the optimal firm growth usually comprises a balance between exploitation of extant resources and development of new resources (Wernerfelt, 1984: 178). However, this was an idea first posited by Penrose in 1959.

Jay Barney also contributed significantly in RBV research. The resource-based view focusses on the linkage between the firms' internal characteristics and firm performance (Barney, 1991). Firms could be considered as a bundle of resources and that resources which are simultaneously valuable, rare, imperfectly imitable and non-substitutable - the VRIN (Valuable, Rare, Imperfectly imitable, non-substitutable) conditions (Barney, 1991). These VRIN resources are a firm's primary source of sustainable competitive advantage. It explains that RBV attempts to locate the source of superior profitability inside the firm. According to Barney 1991; "*Firm resources includes the stock of all assets, capabilities, organizational processes, skills, information, knowledge controlled by a firm that enable the firm to plan and implement strategies that improve its efficiency and effectiveness*" (Barney, 1991: 101). Barney (2001: 649) also suggested that the understanding and application of resource-based view depends upon the empirical context it is applied. Moreover, it is the complementarity in resources which augment firm potential to create and sustain competitive advantage (Nambisan, 2002). Finding of VRIN resources entails a thorough understanding about the firm in order to unravel the mystery of location of sources of sustainable competitive advantage (Rouse and Daellenbach, 1999, 2002). Wiklund and Shepherd (2005) presented their view that the resource-based perspective represents SME growth as a phenomenon determined by configuration of internal firm characteristics, orientation of individual entrepreneurs and the dynamics of business environment. Early development of RBV led to the research on introduction of the concepts of firm capability development (Prahalad and Hamel, 1990; Ulrich and Lake, 1991).

Although RBV theory has significant contributions to the strategic management research, it faces number of criticisms paving way for further extensions, modifications and emergence of

new theories. Hoopes et.al. (2003) identified the problems of operationalization for RBV whereas others claimed that it was very broad and ambiguous (e.g. Pacheco-de-Almeida & Zemsky, 2007, Lippman & Rumelt, 2003, Priem & Butler, 2001). Further, there is meagre research related to rigorous economic modelling of the theory. Also, there is insufficient research about how are the resources are deployed (Peteraf and Barney, 2003).

Many scholars demanded empirical examinations of RBV (Arend, 2006; Hoskisson et. al., 1999) to overcome reported inherent vagueness in RBV due to lack of valid empirical tests. Interestingly, less than 4% of empirical research articles published between 1990 and 2002 in six leading business and management journals included minimum two of their propositions for RBV (Hoopes et al., 2003). So, this thesis attempts to fill this void.

RBV is criticized as fundamentally static theory (Priem and Butler, 2001) despite being a useful contributor to strategic management. It lacks clarity regarding creation and interaction of resources and the mechanism of sustaining advantage through resources (Priem and Butler, 2001). This leaves few conceptual questions remain unanswered. These critics sowed the seeds of dynamic capability theory. The dynamic capability view, as an extension of RBV (Eisenhardt and Martin, 2000; Teece, Pisano and Shuen, 1997) focusses on the processes for creation of future resources. The dynamic capability perspective addresses the capacity a firm should have to sustain in a rapidly changing environment, and to generate new resources, to renew the resources or alter its resource mix. The dynamic capability relates to reconfiguration of resources that, in conjunction with the SME's strategy, fuels and catalyzes the growth path of SMEs. For dynamic capabilities, resources - human (Becker, 1964), physical (Williamson, 1975) and organizational (Tomer, 1987) - represent strengths that firms utilize to plan and implement their strategic intent (Porter, 1981). The resource-based perspective proposes that firms may develop dynamic capabilities which lets them to build, change, reconfigure and transform internal and external resources as well as combinations of resources to address rapidly changing environments (Teece, Pisano et al. Eisenhardt & Martin 2000).

“Resources do not lead to SME growth per se, as this tautology is seen as one of the integral conceptual paradoxes of strategy research” (Zahra and Davidson, 2006).

2.4.3.1. SME from resource based and entrepreneurship view

SMEs play an important role in innovation and growth; however, they face a number of resource-related disadvantages (Lee 2005). They are constrained by finance, human and technological resources, possess fewer external networks, meagre marketing resources, and a general lack of management skills (Rothwell, 1983). Still, compared to large firms, SMEs are generally more adaptive, flexible, and are better positioned to develop and implement novel ideas. Simple organization structure of SMEs, their flexibility, the nature of being risk averse at times as well as risk taking at other times and receptivity are the necessary features enabling them to be innovative (Harrison & Watson, 1998). Hence, SMEs across industries possess the unrealized potential to innovate (Chaminade and Vang, 2006).

Internal characteristics of SME can be specified as being related to strategy (business strategy, dominance), process (formalization, marketing R&D, integration) and organization (climate, business culture and team structure). This research believes that defining characteristics of SME are deep rooted in its culture. Culture means the deep structure of firms, which is ingrained in the values, perceptions, beliefs and behaviour held by the members of firm. (Pullen, A, et. al 2009). Cameron and Ettington (1988) has defined four types of firm culture by the firms with respect to orientation (external and internal) and traits (flexibility and stability) of firms. The classifications are clan culture (internal orientation and flexibility), the adhocracy culture (external orientation and flexibility), the hierarchy culture (internal orientation and stability), and the market culture (external orientation and stability). In developing economy SMEs there is impetus on faster growth and the orientation is towards external factors (market) and flexibility as internal characteristic. Hence SME characteristics are more towards manifesting adhocracy as a cultural trait.

SMEs engaging in entrepreneurial activities contribute, strongly and in a multiplicity of ways, in social and economic growth, by exercising a set of activities fundamentally related with innovation and organizational change (Baumol, 1993). In the seminal assertion by Penrose (1959:26) whereby she conceptualized SMEs from resource-based perspective illustrating a defining line that highlights the value of resources for production and subsequent expansion. Moreover, she also gave other assertions as below in the same stream of thought,

" .. . firms are bundles of resources, under internal direction, for use of goods and services sold in markets for a profit ... resources render (multiple) services. Heterogeneity of services from resources gives each firm its unique character." -(Penrose, 1959:27).

These assertions serve a twofold objective. One, the word 'internal direction' highlights the tasks of entrepreneurs as the organizing entity - in a broader sense the role of strategic change and its association with internal firm processes. Two, the characterization that a firm's physiognomy is shaped by resource combination that produce heterogeneous outcomes. “... *the cohesive shell of the firm helps create knowledge*” (Penrose, 1959:27). These assertions set the basic premises for the scope of dynamic capability concept to be described from the SME perspective.

2.4.3.2. Definition of the SME in an emerging economy (India) context

As previous discussion attempted to put broad boundaries regarding the firm from a conceptual view point, this sub-section continues the conceptual discussion of what a SME mean, and discusses SME from policy-oriented classification, and legal definition. Theoretical attributes given to the “smallness” by which firms are characterized as SMEs include small market share, personalized management and non-economic motivations of the entrepreneur (Shepherd and Wiklund, 2009).

However, the challenge is that identification of such firms need careful attention, is time consuming and highly subjective. Whereas the 'empirical' view approaches firms in terms of quantitative measures, SMEs may be defined in terms of investment, output, employment or a combination of these variables. The Indian government has specified official criteria to define SMEs. As per the Micro, Small and Medium Enterprises Development (MSMED) Act 2006, “*a small-scale enterprise is defined in terms of investment in plant & machinery up to Rs.50 million and a medium scale enterprise to have investment in the range of Rs.50 million to Rs.100 million. Thus, SMEs would cover all enterprises having investment in plant & machinery up to Rs.100 million*” (Ministry of SSI, 2006).

The following table presents the classification of Indian SMEs according to Micro, Small & Medium Enterprises Development (MSMED) Act, 2006.

Table 2.2- Classification of Indian SMEs

Manufacturing Enterprises – Investment in Plant & Machinery		
Description	INR	USD (\$)
Micro Enterprises	up to Rs. 25Lakh	upto \$ 62,500
Small Enterprises	above Rs. 25 Lakh & upto Rs. 5 Crore	above \$ 62,500 & upto \$ 1.25 million
Medium Enterprises	above Rs. 5 Crore & upto Rs. 10 Crore	above \$ 1.25 million & upto \$ 2.5 million

Service Enterprises – Investment in Equipment		
Description	INR	USD (\$)
Micro Enterprises	upto Rs. 10Lakh	upto \$ 25,000
Small Enterprises	above Rs. 10 Lakh & upto Rs. 2 Crore	above \$ 25,000 & upto \$ 0.5 million
Medium Enterprises	above Rs. 2 Crore & upto Rs. 5 Crore	above \$ 0.5 million & upto \$ 1.5 million

In terms of resources, SMEs are characterized by scarcity where decision-making is centralized and strategy is expressed by entrepreneur's vision (Mintzberg, 1984: 534). As the firm continues its growth path through a sequence of processes of revolution and evolution, the senior management team acts as the key manager of the firm that takes the necessary responsibility for decision-making but representing a minimal degree of structural complexity. For the purpose of this thesis, adaptation and evolution are considered essential attributes of SMEs as they prove strong research candidates for understanding dynamic capabilities.

Another most defining SME characteristic is its adhocracy which is comprised of flexibility and external orientation (Cameron, K. Ettington, 1988, Pullen, A et. al, 2009).

Hence, impetus is given to adhocracy as a defining characteristic. To summarize, the thesis is explicitly positioned for SMEs in emerging economy. Contextually, this study is focused on SMEs in Gujarat from diverse sectors such as Manufacturing, Trading, Professional/Scientific/Technical Services, and Hospitality/Food.

2.4.3.3 Purpose of research of entrepreneurship and dynamic capabilities of SMEs

After careful examination of the two areas of resource-based view of the firms, and the nature and characteristics of SMEs, the dominant themes emerged were - the resource constraints faced by SMEs, (whether to include role played by dynamic business environments or not), SMEs' flexibility as its core strength, the encouraging macro-environmental scope of SMEs' growth and development, and the entrepreneurial traits as deep-rooted philosophy of SMEs. SMEs which have crossed the survival and stability stages, and which are competing for success have innate need of growth through competitive advantage. Hence, the gap is the capability using limited resources to compete with rivals in dynamic environments. As SMEs are predominantly owner-led, the founders' ambitions and vision form the dominant strategy design. Hence, there is a need to explicate this gap and investigate the dynamic capability-entrepreneurship interplay in these SMEs by using systematic research tools and methodology. In other words, the intent is to develop and test propositions as to whether certain competencies could be purposefully developed using resources so that firm can get advantage in competitive fast paced markets.

SMEs form a sizable proportion of industrial enterprises, production and employment in India (Subrahmanya, 2006, 2005). India is regarded as one of the fastest growing and rapidly industrializing economy at present. Overall, emerging economies have been following exclusive policies for the progress of SMEs, and have carved out their policies for modernization and technology advancement of SMEs. Hence, SMEs manage to be major drivers of innovation and economic growth, and account for a very large part of country as well as world employment.

This is supported from the research that SMEs have indeed unique, distinct business characteristics (Johnson, 2007). Extant research suggest that economic activities are moving

from larger organizations towards smaller firms (Davidsson *et. al.*, 1994; Thurik and Wennekers, 2001) with SMEs providing generous share in terms of job creation, innovation and industry dynamics (Acs, 1992). Thus, it is clear that the study of entrepreneurial activities of SMEs is an upcoming and important area of research inquiry in management and even the broader realm of social science. However, all small businesses are not classified as entrepreneurial. SMEs are not necessarily entrepreneurial and blending (Shepherd and Wiklund, 2009) which arise from the understanding with Schumpeter's (1934) assertion that entrepreneurship is the act of resource recombination. Thus, it becomes interesting to investigate those internal SME assets that contribute to the entrepreneurial behavior and to competitive advantage with a complex interdependent mechanism.

Summarizing the above, part B of chapter 2 presented the fundamental theoretical underpinning which directed this discussion towards SMEs' *dynamic capabilities* that follows. By narrowing the scope of inquiry towards smaller organizations explicitly, highlighting the concept of the entrepreneurial SMEs within the resource-based perspective and justifying the decision to focus on the distinctive physiognomy of smaller organizations, a context has been built for introducing dynamic capabilities as internally developed SME competences.

Thus, for the purposes of this thesis, dynamic capabilities are considered as

“internally generated, distinctive, knowledge based and purposefully developed higher order capability which leverages on SME defining characteristics to increment, renew or transform firm resources for competitive advantage in dynamic environments”

2.4.4 Entrepreneurship and dynamic capabilities

In case of SMEs, there is a strain created by resource constraints, dynamic environments on one hand, and entrepreneurial SMEs and the need for growth through competitive advantage on other hand. Thus, there is introduction to the concept of 'dynamic capabilities' within this research schemata followed by critical discussion about conceptual, definitional and empirical existence of the construct of dynamic capabilities. The discussion will also analyze the formation of dynamic capabilities as well as attempt to make a clear distinction of value added to the firm by dynamic capabilities.

2.4.5. From resources to capabilities to dynamic capabilities

Resources are assets that have utility in production process (Amit and Schoemaker, 1993) and infrequently lead to performance differences themselves (Grant, 1991). Resources do not generate rents *per se*, but it is their deployment that generate their usefulness (Grant, 1991). And, capabilities refer to firms' ability to synchronize and deploy resources for achieving their goals (Amit and Schoemaker, 1993). Therefore, this thesis argues that capabilities (i.e. application of resources) are actually responsible than the resources *per.se*, for performance differences. Additionally, capabilities are not procured from the market (Makadok, 2001) because they are not merely inputs into a productive process but are built from within. The research believes that capabilities are internal in nature and distinct to different firms. Resources and capabilities are also distinguished by accrediting to resources the role of fundamental firm assets where capabilities are considered as higher order constructs that enable configurations of resources when following firms' strategic intent (Hitt, Ireland and Hoskisson, 1999). This differentiation is attributed to the view of firms as dynamic flow of resources.

This juncture forms the threshold point for the introduction of dynamic capabilities. The essential connection among resources, capabilities and firm effects is the generation of organizational knowledge channelized in the process of dynamic capability formation and action.

2.4.6 Contextualizing Dynamic capabilities

Placed with origins in the resource-based perspective, *dynamic capabilities*, as a concept under investigation has been conceived to address the gap between having a rich stock of resources and deploying them for obtaining competitive advantage on persistent basis. Firms' distinctive competence is associated to the superior usage of resources (Mahoney and Pandain, 1992). To utilize these resources, firms should strive to achieve better valuation of their resources (Alvarez and Busenitz, 2001) by renewing their resource base (Ambrosini *et al.*, 2009). This is important and contextual because SMEs are endowed with the capability to learn, evolve and develop temporal thrift with their rapidly changing external environment (please refer to sub-section 2.4.9.3 in this thesis for details) (Teece *et al.*, 1997, Lei et al 1996).

As the goal of the research is to get a deepened insight of the phenomena in question, it is critical to identify and highlight the potential sources of conceptual confusion on dynamic capability as a construct for SME competitive advantage.

2.4.7 Theoretical roots and defining characteristics of dynamic capabilities

This sub-section explains the conceptual base of *Dynamic Capabilities*. Teece *et. al.* (1997: 516) has given a seminal definition to dynamic capabilities as “dynamic *abilities* are assets by which entrepreneurs *integrate, build and reconfigure internal and external competencies to address rapidly changing environments*”. Though the concept of RBV is extended to dynamic markets (Teece *et al.*, 1997), the question still remains unanswered as to why some firms have a competitive advantage over their competitors (Zahra *et al.*, 2006), more so when market situations are unpredictable and firms experience rapid changes (Eisenhardt and Martin, 2000: 1106). Hence, dynamic capability view focuses on capabilities in the context of changing environment. This view stresses the importance of the self-changing capacity of such assets in relation to the fast-changing environment. According to the view, an extended paradigm is essential for understanding the underlying conditions for shaping of firms’ competitive advantage. Moreover, Teece *et. al.* (1994: 537) rightfully argued,

“... winners in the global marketplace have been firms demonstrating timely responsiveness and rapid and flexible product innovation along with the management capability to coordinate and redeploy internal and external competences”.

Hence, the theory of resource-based view is unable to attend to the aspects of timely responsiveness i.e. why certain firms manifest “timely responsiveness” in uncertain, unpredictable and highly dynamic environments (Eisenhardt and Martin, 2000). However, critics of dynamic capability view argued that these firm-level capabilities are invisible or hidden (Itami, 1987), represent tacit and complex constructs (Dierickx and Cool, 1989) and are meta-routines (Collins, 1994) which are hard to observe (Simonin, 1999) and have causal ambiguity (Williamson, 1999). Nerkar and Roberts (2004:781) claim that

“absent the ability to measure these (often intangible) assets with any degree of precision, we assume that they develop as a function of a firm's accumulated experience”.

Table 2.3: Definitions of construct of “Dynamic *capability*”

Author	Definitions
Helfat (1997)	The subset of the competences/capabilities which allow the firm to create new products and processes and respond to changing market circumstances
Teece et al. (1997)	The firm's ability to integrate, build, and reconfigure internal and external competences to address rapidly changing environments
Eisenhardt and Martin (2000)	The firm's processes that use resources - specifically the processes to integrate, reconfigure, gain and release resources to match or even create market change. Dynamic capabilities thus are the organizational and strategic routines by which firms achieve new resources configurations as market emerge, collide, split, evolve and die.
Lee et al (2002)	A newer source of competitive advantage in conceptualizing how firms are able to cope with environmental changes
Rindova and Taylor (2002)	Dynamic capabilities evolve at two levels: a micro-evolution through 'upgrading the management capabilities of the firm' and a macro-evolution associated with 'reconfiguring market competencies'
Zahra and George (2002a)	Dynamic capabilities are essentially change-oriented capabilities that help firms redeploy and reconfigure their resource base to meet evolving customer demands and competitor strategies
Zollo and Winter (2002)	A dynamic capability is a learned and stable pattern of collective activity through which the organization systematically generates and modifies its operating routines in pursuit of improved effectiveness
Winter (2003)	Those that operate to extend, modify or create ordinary (substantive) capabilities
Zahra et al (2006)	The abilities to reconfigure a firm's resources and routines in the manner envisioned and deemed appropriate by its principal decision-maker(s)
Helfat et al (2007)	The capacity of an organization to purposefully create, extend or modify its resource base.
Barreto (2010)	Dynamic capability is the firms' potential to systematically solve problems, formed by its propensity to sense opportunities and threats, to make timely and market-oriented decisions, and to change its resource base.
Danneels(2010: 30)[16].	Dynamic capabilities perspective, as an intensively developing theoretical stream within the resource-based view, seems to be one of the most influential concepts dealing with reasons underlying ability and failure to renew organizations in the environmental dynamism.
Eisenhardt and Martin (2000)	Dynamic capabilities are the means to integrate, Re-configure, and release resources to match market change.

Pavlou and El Sawy (2011)	Dynamic capabilities have been proposed as a means for addressing turbulent environments by helping Managers extend, modify, and reconfigure existing operational capabilities into new ones that better match the environment.
Teece (2014: 348) [71].	Dynamic capabilities lay the foundation for the most ambitious framework aimed at a truly fundamental understanding of the origins of firm-level heterogeneity and the sources of enterprise-level value creation, capture, and growth.
Helfat and Martin (2015)	The capabilities with which managers create, extend, and modify the ways in which firms make a living-helps to explain the relationship between the quality of managerial decisions, strategic change, and organizational performance
Arend (2015)	We define dynamic capability (DC) as a firm’s routinized ability to change its operational capabilities (OCs) – its daily business operations – effectively
Yun et al. (2016:3) [80].	Dynamic capabilities theory cannot directly explain the triggers of dynamic capabilities. There is no sufficient explanation to the starting point of the introduction of new ideas, know-ledge, or technology, as a dynamic activity performed by a firm.
Wang and Hsu (2018)	Dynamic capabilities are defined as high-level capabilities involved in the processing of substantive capabilities.

The study is influenced specifically by the following definitions of DC:

(a). Seminal definition of dynamic capabilities by Teece 1997 as “dynamic capabilities is a firm's ability to integrate, build and reconfigure internal and external competences to address rapidly changing environments”

(b) By definition of dynamic capability by Zahra et al. 2006 as “dynamic capabilities as the ability to reconfigure a firm's resources and routines in the manner envisioned and deemed appropriate by its principal decision-maker(s)”

(c) As proposed by Barreto (2010) as “A dynamic capability is the firms' potential to systematically solve problems, formed by its propensity to sense opportunities and threats, to make timely and market-oriented decisions, and to change its resource base”. And

(d). As proposed by Arend (2015) as “We define dynamic capability (DC) as a firm’s routinized ability to change its operational capabilities (OCs) – its daily business operations – effectively”

This represents our study’s concrete view of the phenomenon under scrutiny, highlighting the importance of entrepreneurs to develop those assets, as *dynamic capabilities* which are internally built from the firm rather than bought from the market (Makadok, 2001). This view also implies that the character of these processes is different in new and established organizations (Ambrosini *et al.*, 2009) whereas the authors themselves point out a literature gap regarding the study of *dynamic capabilities* within the SME framework (Zahra *et al.*, 2006:920). The theoretical roots and underlying formation of dynamic capabilities are highlighted as follows:

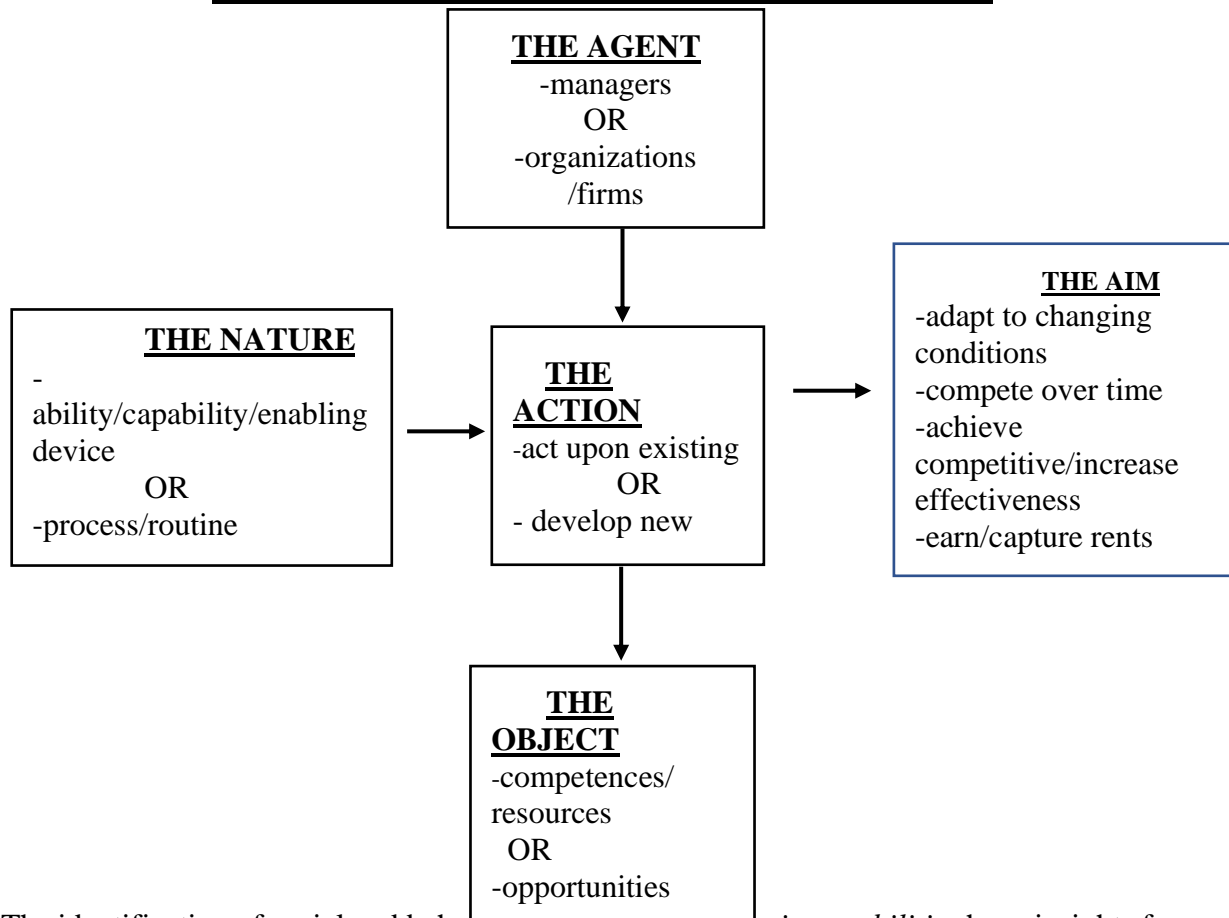
Table 2.4 -Theoretical roots of dynamic capability

	Resource-based view	Knowledge-based view	Behavioural theory	Evolutionary economics	Network theory	Transaction cost economics	Positioning view
Core work	Wernerfelt 1984	Kogut and Zander, 1992	Cyert and March 1963	Nelson and Winter,1982	Granoveller,1985	Williamson, 1975	Porter 1980
Citations	28	20	10	27	8	13	9
Related reference(s)	Amit and Schoemaker, 1993	Ahuja and Lampert, 2001	Brown and Eisenhardt,1997	Adler et.al,1999	Burt,1982	Williamson,1985	Porter, 1996
	Barney, 1986	Brown and Duguid, 2001	Cohen and Bacdayan,1994	Helfat and Raubitschek,2000	Gulati,1999		
	Barney, 1991	Conner and Prahlad, 1996	Cohen and Levinthal,2000	Karim and Mitchell,2000	Hansen, 1999		
	Barney, 2000	Grant, 1996a	Huber,1991	Tushman and Anderson,1986	Kogut,2000		
	Collis,1991	Grant,1996b	Lane and				
	Dierickx and Cool,1989	Henderson and Clark, 1990	Levinthal and				
	Dyer and Singh,1998	Leonard-Barton,1992	March,1991				
	Galunic and Rodan, 1998	Leonard-Barton,1995	March and				
	Grant, 1991	Nahapiet and Goshal, 1998	Tripsas and				
	Henderson and Cockburn, 1994	Nonaka, 1994					
	Hitt et.al., 2001	Nonaka and Takeuchi,1995					
	Iansiti and Clark, 1994	Szulanski,1996					
	Lepak and Snell, 1999	Zahra et.al.,2001					
	Lipman and Rumelt, 1982	Zander and Kogut,1995					
	Mahoney and Pandian, 1992						
	Penrose, 1959						
	Peteraf, 1993						
	Powell and Dent-Micallef, 1997						
	Prahlad and Hamel, 1990						
	Priem and Burler, 2001						
	Ross et.al., 1996						
	Rumelt, 1984						
Citations	274	139	129	30	24	7	7

The above Table 2.4 presents the theoretical roots of dynamic capabilities which are adopted from Di Stefano, Peteraf & Verona, 2014.

The defining characteristics of dynamic capabilities are presented as follows in Figure 2.2:

Figure 2.2- Dynamic Capability- The Emerging Evidence



The identification of social and behavioral patterns or *dynamic capabilities* have insights from economics (Helfat and Peteraf, 2003, Nelson and Winter, 1982). Capabilities are developed in the context of resource allocation, a process rooted in social structures accordingly (Schreyogg and Kliesch, 2007: 914). This is reflected in both formal as well as informal procedures (Dosi et.al. 2000, Hofer and Schendel, 1978; Sanchez and Mahoney, 1996) which taps in entrepreneurs' experiences and the organizations accumulation of old and new knowledge. Few research scholars consider them 'dynamic core competences' (Danneels, 2002, Lei et.al 1996) which point towards a dynamization of organizational capabilities.

From an entrepreneurship perspective, because the venturing process is linked with the discovery, creation and exploitation of entrepreneurial opportunities (Sathe, 2003, Hamel and Prahalad, 1994; Miller, 1983), contingent on the nature of the environment, entrepreneurs are faced to revise their routines (March, 1991) for developing firm's scarce knowledge bases to create new competencies. In the case of small and very SMEs, this initiative forms a foundation for achieving the firms' growth agenda. Thus, consistent with Zahra *et al* (2006: 921), this study acknowledges the fact that the firm cultivates the capability to change routines and to

integrate them into their operations. Therefore, following are the three confounded components essentially acting as 'criteria' for dynamic capability development:

- (1) Problem solving ability.
- (2) The occurrence of rapidly changing problems.
- (3) The ability to change the way of problem solving.

In case of most firms, whether new or established, they participate in experimentation (Ahuja and Lampert, 2001), improvisation (Moorman and Miner, 1998a, 1998b) and learning by doing (Minniti and Bygrave, 2001). These firms' competences dive into specific knowledge bases, which implies that *dynamic capabilities* have an underlying base that is driven by organizational learning. This concurs with the view that learning becomes a path dependent process and what firms do learn does depends on what they know already (Cohen and Levinthal, 1990; Zahra and George, 2002a). In the historical context of literature review of dynamic capabilities literature, they are considered in three aspects – as a firm resource or a fixed asset, as a process of implanting capabilities in routines and as a perceptual concept generated by assimilating collective cognition regarding the past path dependencies and its linkages in a credible plausible future. (Suddaby, R et. al 2020) (OS2)

For the purposes of this study, the examination is confined to *dynamic capabilities* developed from SME perspective. In SMEs, decision making is principally related with an individual entrepreneur's - or a small senior management team – prescient anticipation of circumstances and deriving needs that require attention and action. The characteristics of the owners/managers may promote or discourage attitudes towards innovation and the implementation of novel ideas (Das, 1994; Knight, 2000, De Toni and Nassimbeni, 2001) and adaptation to change (Starr and Fondas, 1992). Competitive actions from all participants in a market or industry and their interactions may transform the ground on which competition occurs (Calori et al., 2000).

Given this context, it is mandatory to conceptualize *dynamic capabilities* as fluid, overlapping constructs that generate processes in response to perceptions of opportunities, willingness to undertake change essentially, 'implementing' change (Katona, 1951; Penrose, 1959). As stated

by Collis (2006) when properly defined, Organizational dynamic capabilities can represent as root of competitive advantage.

2.4.8. Hierarchies of dynamic capabilities

For in-depth discussion about the characteristics of *dynamic capabilities*, literature classifies DCs hierarchically (Ambrosini *et al.*, 2009; Helfat *et al.*, 2007, Collis, 1994; Teece *et al.*, 1994). Prior studies have shown that dynamic capability is a higher-order construct and in moderately stable environmental context, it displays the nature of being incremental and renewing (Eisenhardt and Martin, 2000). *Dynamic capabilities* may also require to be refreshed reflecting therefore their *regenerative ability* especially in dynamic environments (Winter, 2003). These distinctions are fundamental when discussing applications of *dynamic capabilities* in SME context because these assertions inherently imply differentials in terms of their direct impact in the resource base as well as their competitive advantage outcomes.

Zahra *et al* (2006) gave an initial distinction between substantive capabilities that represent the organization's core knowledge base and *dynamic capabilities* that represent higher order constructs. The first notion of hierarchy in the *dynamic capabilities* conundrum came from Collis (1994) who defined four categories of *dynamic capabilities*, namely the first representing itself the resource base of the firm, second layer is devoted to the change of existing resources, a third layer regarding augmentation of current capabilities and fourth as higher-order capacity that is considered as a meta-routine. In Danneel's interesting (2002) work, *dynamic capabilities* are dichotomized into two broader categories, with first order constructs demonstrating a firm's capability to achieve individual jobs whereas a second order construct taps into the firm's ability to renew through the creation of new first order competencies. Winter (2002) argues that if one defines 'zero level' capabilities to be capabilities that enable firms to 'make a living' for short term - then *dynamic capabilities* are those which operate to create, modify or extend ordinary capabilities, in full line with Danneels (2002) previously mentioned work. Winter's (2003) notion was substantial; stressing that higher order capability can be considered as the outcome of organizational learning.

The latest assertion regarding hierarchies of *dynamic capabilities* came from Ambrosini *et al* (2009), who synthesized the above views to discuss and subsequently extend the discussion, proposing a three-level view of *dynamic capabilities*, which corresponds to this study's understanding of the phenomenon. The first category represents *incremental dynamic*

capabilities, stressing first and foremost the idea that such constructs do not necessarily develop in a rapidly changing environment but can also occur in stable contexts as simple and iterative constructs (Ambrosini *et al*, 2009:15; Eisenhardt and Martin, 2000, Teece *et al.*, 1997;). Moreover, dynamic capabilities in this stream are embedded and are repeatable in the firm's structures (Helfat *et al.*, 2007; Ambrossini, 2009; Helfat and Peteraf, 2003), representing stable patterns of the firm (Zollo and Winter, 2002). Generally, the nature of *dynamic capabilities* to reconfigure existing resources and assets typically implies patterning of activity (Winter, 2000). In smaller organizations, such patterning may be easier to identify in terms of its simplicity, representing a set of fundamental, basic processes that enable firms to achieve their short and long-term objectives.

The second category proposed by Ambrosini *et. al* (2009) entitled renewing dynamic capabilities which is a common theme in the literature and in the hierarchical stream, these constructs generate sustainable rents in changing environments by renewing the nature of resources. Such capabilities are developed over time with amassing of experiences and investments in resources (Makadok, 2011; Maritan, 2001), and tend to be reinforced through repetition. As Ambrosini *et. al.* (2009:32) argues, renewing dynamic capabilities are firm assets "*adjusting the mix of the extant resource stock*", improving existing resources. This conceptualization is aligned with Helfat *et. al.* (2007) and Maritan (2007) who claimed that dynamic capabilities are generated internally.

The third level of dynamic capabilities stresses the recreational physiognomy of the components aiming at a higher level of the organization itself. It is entitled *regenerative dynamic capabilities* that allow firms as a whole to change statuses and practices towards new, when conditions of the environment are considered uncertain, discontinuous and non-linear (D' Aveni, 1994). When such circumstances occur, the firm has to change its entire patterning of activity to accommodate restructuring and new learning, having therefore an indirect effect on the resource base (Ambrosini, 2009: 19). Essentially, this implies reconfiguration of existing assets to generate new competencies by grasping on the market needs and establishing a 'dialogue' throughout the firm to 'translate' this knowledge. This can be seen as an organizational renewal process (e.g. Barr, Stimpert and Huff, 1992; Tripsas and Gavetti, 2000; Mahoney, 1995) that enables firms to overcome inertia, hinting towards sense making perspectives (e.g. Drazin, Glynn and Kazanjian, 1999; Piderit, 2000).

The above discussion attempted to exemplify how *dynamic capabilities* are put into a hierarchy underlying their nature and distinct characteristics. This is essential for better justifying the utilisation of specific firm assets as this study's *dynamic capabilities*, bearing in mind the aforementioned regarding an essential connection between creation of *dynamic capabilities* and the size of the firm. As *dynamic capabilities* are built within the boundaries of the firm and cannot be 'bought' (Makadok, 2001), in the broadest of senses, they are conceptualized as organizational processes (Helfat *et. al.* 2007). When firms are large - in the strictest of Taxonomical terms presented above - the degree of complexity for generating dynamic processes and routines is fundamental yet very difficult and the creation of *dynamic capabilities* is a formidable achievement for management (Grant, 1996:122). However, when the discussion is applied in the small business context, Winter's (2000) notion of 'ad hoc' resource reconfigurations in new ways (Sirmon and Hitt, 2003) is inherently true and particularly revealing. These views are consistent with Barney and Mackey (2005), and Barney (2002) who stressed a fundamental assumption of the resource-based view of the firm regarding the need for organizing in such a way to capitalize on the developed resources and capabilities.

2.4.9. Organizing context of research inquiry

This topic deals with confusions and ambiguities in the extant literature of *dynamic capabilities and organizing context of inquiry*. It is an effort to highlight the base of exploring the interplay between *dynamic capabilities, entrepreneurial orientation* and growth in smaller organizations. This sub-section of the chapter discusses associations between dynamic capabilities and firm environment as well as the nature of *dynamic capabilities* and their direct associations with firm competitive advantage

Although there is vast research regarding resource-based perspective and extensive growth of research engaged in *dynamic capabilities*, scholars remain surprisingly quiet on embracing these views with reference to SMEs (Zahra, S.A *et al.*, and 2006:920). With respect to dynamic capability formation, there are no justifying research contributions regarding the linkages with the environmental dynamism. and whether *dynamic capabilities* are developed to address environmental threats or are created internally. This thesis considers the influence of environmental dynamism on the relationship between dynamic capability and entrepreneurial orientation. Finally, a third ambiguity, that this thesis identifies, is concerned with the outcomes

of dynamic capability as the scholars remaining unclear as to the direct effect of link on firm competitive advantage (Ambrosini *et al*, 2009, Helfat *et al.*, 2007; Zahra *et al.*, 2006).

2.4.9.1 The need to develop theory addressing SME dynamic capabilities

Theory presented in this thesis thus far, conceptually discussed the phenomenon and its epiphenomena, representing broad and generic prescriptions of how dynamic capabilities within the firm *are* dismantled on the basis of the ‘firm’, ignoring the unique physiognomy of smaller organization’s as clearly and explicitly (Zahra *et. al.*, 2006:920). Given this as a background, the scholars stress the need for studies that examine the nature, development process, emergence or evolvement of *dynamic capabilities* within the SME challenge, taking into consideration that the vast majority of those firms are characterized by resource scarcity, lack of knowledge formations and expertise in generating diverse capabilities; “... *most research and theory building has focused on large and established companies thus ignoring new ventures and SMEs. We find this gap in the literature to be puzzling given that SMEs and new ventures need unique and dynamic capabilities that allow them to survive, achieve legitimacy and reap the benefit of their innovation. The skills and competencies that these firms have must to be upgraded and new dynamic capabilities are built to ensure successful adaptation for growth.*” (Zahra *et. al*, 2006:919)

It seems that these are key characteristics in an emerging dynamic capability debate requiring attention and subsequent conceptual development. This thesis considers SME *dynamic capabilities* as fundamental, basic iterative processes as what appears complex and synthetic when examined in large organizations, is simple yet fundamental in smaller organizing systems.

2.4.9.2 Dynamic capability and the environment of the firm

The speed and nature of extrinsic change has taken on a range of labels, including uncertainty (Galbraith 1973), dynamism (Mintzberg 1979), and turbulence (Ansoff 1979) and velocity (Eisenhardt 1989). Thus, there is a consensus among authors with regards to environmental change under different facets. Environmental dynamism is generally defined as variations in the way strategic actions impact firm competitive advantage (Siggelkow and Rivkin, 2005, Dess and Beard, 1984). Eisenhardt and Bourgeois (1988) define environmental dynamism as

“in which there is rapid and discontinuous change in demand, competitors, technology and/or regulation, such that information is often inaccurate, unavailable, or obsolete.” Hence, the locus of change is customers, competitors, regulation and technology. Changes in this source causes changes in business landscape. Because business environments change in larger frequency (Posen and Levinthal, 2012), more intensely (Dess and Beard, 1984), and more sharply (McCarthy *et al.*, 2010), there is an impending interest in getting knowledge about how firms could be more adaptive with regards to external changes.

2.4.9.3 Environmental Dynamism and Dynamic Capabilities

Dynamic markets are defined as markets where changes in technologies, market participants and successful business models occur frequently, relatively fast and in a relatively unpredictable fashion (Eisenhardt, Martin 2000). Dynamic capabilities are specifically pertinent in the setting of external pressures originating from technical change and market features.

There are contending assertions concerning the impact of environmental dynamism on the relationship between dynamic capabilities and competitive advantage. Many scholars claim that the dynamism in environment may augment the efficiency of dynamic capabilities and their prospect for competitive advantage (Drnevich and Kriauciunas, 2011, Winter, 2003, Zollo and Winter, 2002). However, a contrary view is that dynamic capabilities could be less effective in highly dynamic environments (Schreyogg and Kliesch-Eberl, 2007, Eisenhardt and Martin, 2000). Scholars having a perspective of contingency believe that the value added by dynamic capabilities depend not only on the presence of the fundamental organizational routines, but also on the context of capability deployment (Sirmon and Hitt, 2009; Levinthal, 2000). It is recognized that environmental forces are instrumental in determining the effective modes of organizational adaptation (Hrebiniak and Joyce, 1985).

The elements of environmental dynamism are the instability in market demand, probability of environmental shocks and modifications in industry structure (Sirmon, Hitt, and Ireland, 2007, Jansen *et. al.* 2006; Levinthal and Myatt, 1994). Likewise, environments with little dynamism are have anticipatable infrequent changes. Highly dynamic environments are where there is a common onset of rapid and discontinuous change. In between these there are moderately dynamic environments where change occurs regularly on a linear and predictable path. The effect of environmental dynamism on the relationship between dynamic capabilities and

competitive advantage, are having contradicting views along with having slight integration of both perspectives. According to the first view, a critical need to change has to be there in order to gain optimum value from these capabilities (Drnevich and Kriauciunas, 2011; Helfat et al. 2007; Zahra et al., 2006; winter, 2003; Zollo and winter, 2002). This is because building and using dynamic capabilities can be costly. These costs are typically generated from several activities involved in creating new resources, reconfiguring existing ones, and resource re-combinations. There also might be an additional cost burden if continuous reconfiguration disrupts the ongoing routines and learning activities as that can potentially prevent the firm from recognizing subtle differences in the outcome of its resources in different conditions. Other weighty costs may result when the need for resource modification is wrongly estimated i.e. dynamic capabilities are deployed without any compelling reason to change (Winter, 2003). This can incur very high costs because when the resource base is undergoing frequent disruption it may degrade the structural ability of resources to reproduce. As a consequence, it decreases the organizations credibility as an accountable and reliable collective entity. Even if organization is aware of and acknowledges the fact that development of dynamic capabilities involves high cost implications, the potential value of dynamic capabilities increases.

If a need to change is rare for the firm, its competitive performance may suffer when it offers significant resources for the development of these capabilities. This observation reinforces the importance of matching the costs of a certain dynamic capability and its actual utility. Thus, dynamic capabilities can be considered as ‘strategic options’ that lets firms to re-shape their existing stock of resources base when the opportunity or need arises. (Kogut and Zander, 1996)

When the need for change is low, the use of dynamic capability becomes limited and hence, it turns comparatively less valuable. It implies that a firm will need to use its dynamic capabilities more often and repeatedly in order for them to yield significant value (Helfat and Winter, 2011). Considering this argument, it can be inferred that in case of low environmental dynamism, dynamic capabilities are likely to be of relatively low importance for a firm’s competitive advantage. Such environments typically reward steady exploitation of extant resources (Leonard-Barton, 1992; Teece, 2007). Therefore, the positive effect of dynamic capabilities on a firm’s competitive advantage will be comparatively low when environmental dynamism is low. Scholars claim that routine-based dynamic capabilities may not necessarily be an adequate means of change, even though there is a substantial need for resource configurations (Schreyögg and Kliesch Eberl, 2007; Eisenhardt and Martin, 2000). Routines

which underlie dynamic capabilities have an important characteristic of being path dependent and hence based on outcomes of past actions and interpretations (Schrey ogg and Kliesch-Eberl, 2007). Routine-based, path-dependent organizational change is typically works well for local and incremental adaptation based on past experiences (Schilke, 2014), however research on experiential learning contends that this type of organizational change may cause problems especially when previously unknown forces unceasingly amend the basis of competitive advantage (Levinthal and Rerup, 2006; March and Levinthal, 1993). This is usually the case in turbulent environments with high dynamism. Thus, in case of presentation of contexts with frequent unpredictable change, dynamic capabilities face challenges in form of managing inertia and balancing the matching of resources to environmental needs.

A fundamental inconsistency associated with the concept under scrutiny is the tendency to attribute environmental influences on the development of the construct itself (Zahra *et al.*, 2006). Teece *et. al.* (1997) claimed that dynamic capabilities enable firms to address rapid changes faced by the environment. In their seminal publication, Eisenhardt and Martin (2000) offered detailed prescriptions of dynamic capability patterning in dynamic markets where subject to change, these constructs take the form of either analytic routines or simple, experiential formations. By accepting a correlate between firm environment and its dynamic capability development, "... importance is put on the dynamism of the environment rather than the dynamic nature of the capability itself" (Zahra *et al.*, 2006:925). Moreover, in SMEs, capability development should be examined in relation to the willingness of decision makers to actually engage into such a process (King and Tucci, 2002), as managerial choice is at the epicenter of discussion in this thesis with the importance of the entrepreneur being communicated. This serves as a statement that hints towards the interplay between entrepreneurial strategy making processes with SME dynamic capabilities. Therefore, this study follows suggestions from Zahra et al (2006: 924);

" ...the need for reconfiguration or the renewal of routines may emanate from changes in organizational conditions (e.g. changes in resources) rather than in the external environment."

This discussion justifies the decision to adopt an internal view when examining the phenomena under scrutiny. Yet this study informs that proposed dynamic capabilities are established from the SME to meet changing market and business environmental conditions.

2.4.9.4 The performance tautology

Early views of *dynamic capabilities* tend to equate them to competitive advantage (Cepeda and Vera, 2007) leading towards positive performance outcomes based on the possession of such capabilities. This thesis follows the views of Ambrosini *et al.* (2009), Helfat *et al.* (2007) and Zahra *et al.* (2006) to argue that mere possessing of *dynamic capabilities* does not lead to positive performance *per se*. As the resource base, itself provides direct effect on performance outcomes (Penrose, 1959), *dynamic capabilities* in this thesis are conceptualized as higher order constructs, implying that these constructs affect the resource base, having therefore *indirect* effects on competitive advantage. According to Ambrosini *et al.* (2009:32), “... *the resource base is directly linked to rents, but dynamic capabilities are one step beyond*”. This thesis, thus, argues that for SMEs, there should be a generic first-level resource that would enable the firm to materialize on those *dynamic capabilities*.

In a similar view, Zahra *et al.*, (2006) argued that the development of *dynamic capabilities* is significant without ensuring that the organization will enjoy the bear of its fruit. The development process is itself costly as it requires direction of resources and time, having uncertain outcomes, with short and long-term impact, respectively. An essential factor that underlies the whole process is effectively managing these capabilities, pointing towards the entrepreneur as the subject of this supposition. Yet, it is argued that due to heterogeneity in beliefs about resources, a direct association between *dynamic capabilities* and firm outcomes should not be excluded from the discussion, given the fact that this thesis is addressing these claims within the SME spectrum where *dynamic capabilities* are not conceptually concrete and their associations with competitive advantage indeed is an aspect of confusion. Therefore, this misapprehension dictates empirical attention.

2.4.9.5 What constitutes a suitable SME dynamic capability?

Dynamic capability research has recently gained momentum by many scholars researching about dynamic capabilities of SMEs (Arthursand Busenitz 2005; Liao, Kickul, and Ma 2009; Newbert 2005). Scholars claim that dynamic capabilities, in context of SMEs especially, entrepreneurial firms have often been considered as individualized processes, grounded on their tacit knowledge and socially and/or emotionally embedded subtleties (McGuinness and Morgan 2000; Liao, Kickul and Ma 2009). Summarizing the details mentioned in aforementioned topics within an organizing prism, this thesis aims to inform and extend current

thinking and scholarly study of *dynamic capabilities* to accommodate a view that is explicitly focused on the manifestations of these constructs taking into consideration the physiognomy of small enterprises. To fulfil this worthy task, it is fundamental to build on previously presented literature selectively and set the boundaries of distinction for subsequent discussion of the study's *dynamic capabilities*. The thesis has considered Ambrosini *et al* (2009) hierarchical proportions, exemplified the performance tautology by embracing the view of Zahra *et. al.*, (2006) that *dynamic capabilities* does not necessary result into performance improvements and highlighted the willingness to examine these in an empirical fashion. The following part introduces the conceptual accounts that justify the above.

2.4.10 SME dynamic capabilities and the performance tautology

By adopting definition of Zahra *et. al.*, (2006) for *dynamic capabilities* as " ... *the ability to reconfigure a firm's resources and routines in the manner envisioned and deemed appropriate by its principle decision-makers*", this thesis indeed evades some kind of a performance tautology as the foci of the research that is based on an interplay between *dynamic capabilities* as intermediaries on a well empirically defined relationship between entrepreneurial orientation and firm outcomes. Therefore, focus here is on the dynamism and transformational capacity of the capability itself rather than explicit emphasis on the construct's direct effects on firm outcomes. However, as these principles are exploratory applied on small enterprises, it is essential to mention that a direct examination is still beneficial to empirically assess their usefulness considering the fact that what applies in larger organization's does not necessarily apply similarly in the context of SMEs as well. This is in alignment with Zott (2003) who argued that *dynamic capabilities* can be linked with firm performance, citing Henderson and Cockburn (1994), Iansiti and Clark (1994) and Collis (1994) who found positive associations with performance outcomes in their proposed model of dynamic capabilities.

Rashidirad et al, 2017 has conducted research on the relationship between dynamic capabilities, competitive strategies and value creation as a performance outcomes. They hypothesized when different competitive strategies are linked with specific dynamic capabilities different values sets are being generated . For eg. Firms that adopted differentiation as a strategy and also developed sensing capability generated novelty as value, firms that adopted differentiation strategy and developed seizing capability generated "lock-in" as value and the firms that adopted a cost leadership strategy and developed learning capability generated "efficiency " as value. However ,these assertions are closely linked

conceptually with Eisenhardt and Martin's (2000) views regarding competitive but not sustainable advantages. Bowman and Ambrosini (2003:8) argue that dynamic capabilities essentially represent four integral processes associated with reconfiguration, leverage, learning and integration of existing stock of resources. Within these premises, this thesis is introducing constructs that make these processes meaningful when the physiognomy of SMEs is considered. Therefore, the direct effects of dynamic capabilities on SMEs' competitive advantage are examined on the basis that such higher-order constructs essentially create knowledge-based processes that should have implication on competitive advantage of firms.

2.4.11. SME dynamic capabilities and knowledge management

Building up further, it could be inferred that dynamic capabilities represent knowledge-embedded processes from the accumulation of new knowledge side as well as on the integration of new knowledge to firm processes, routines and meta-routines accordingly. What large firms can accumulate via resource acquisition and further facilitate both tacitly and explicitly, SMEs have to conceive, nurture and develop it representing therefore, a collective cohesion of social, cultural and strategic accounts that generate essential firm knowledge which in turn is utilized for the creation of firm capabilities. *Dynamic capabilities* are seen as path dependent processes (Dierickx and Cool, 1989; Zahra *et al*, 2006; Ambrosini *et al*, 2009) with path dependence being at the root of knowledge (Monteverde and Teece, 1982) and social nature of learning respectively (Teece *et al.*, 1997). This emphasizes that learning is essential for dynamic capability creation with some scholars claiming that learning is itself a dynamic capability (e.g. Teece *et. al.*, 1997). This study completely supports the view that "*dynamic capabilities are shaped by the co-evolution of learning mechanisms*" (Zollo and Winter, 2002:339). As rightfully claimed by Kogut and Zander (1992:384), the knowledge within the firm is relatively observable yet "... *the theoretical challenge is to understand the knowledge base of the firm as leading to a set of capabilities that enhance the chances for growth and survival*".

In SMEs, emphasis of knowledge management is on striving to improve practices (Lumpkin and Lichtenstein, 2005), with creation of new knowledge (Senge, 1990) as well as with detection of misalignments (Argyris, 1990). When developing knowledge-based competencies, SMEs essentially generate sources of competitive advantage that are difficult to imitate (Wiklund and Shepherd, 2003), facilitating sustainable differentiation practices (McEvily and Chakravarthy, 2002) which subsequently contribute to the capacity of firms to be entrepreneurial (Galunic and Eisenhardt, 1994). In SME formation, knowledge management

essentially represents accounts of knowledge accumulation and subsequent integration within the firms' processes, structures and underlying formation. The management of knowledge and know-how is fundamentally a strategic issue (Shuen, 1994; Teece, Pisano and Shuen, 1997) with knowledge seen as a definite source of lasting competitive advantage (Nonaka, 1991), representing in a sense the depth of the SME in terms of resources committed to learning and expertise to capitalize new knowledge in the creation of capabilities. Based on the above assertions, a first-order resource under these premises would be the capacity of the SME to collect information from its surrounding environment.

Summarizing the discussion so far, *dynamic capabilities* represent assets that have knowledge-based underlying formations, have a hierarchical structure and correspond to the need of the firm to solve particular problems. They manifest the ability of the firm to learn and at the same time are illustrated at the firm's processes that capitalize that learning into problem-solving dissensions. This study stressed that in particular for SMEs, *dynamic capabilities* represent the most simple and basic firm processes that *should* have performance implications. Figure below illustrates all of the aforementioned into a unified agenda.

Following are the sub themes which emanate from the literature review related to dynamic capabilities. Emergent themes for understanding SME dynamic capability

1. Higher order learning
2. Founders network configuration
3. Strategic sensing (absorptive capacity) has got mechanism to capture sensed information – ability to sense the change in context – seek the information (Routines to change routines) for e.g. 3m spends 30 percent time in thinking about innovation
4. Rapid response/action ability (flexibility /agility/ low bureaucracy) accelerated response mechanisms
5. Strategic decision making
6. Change implementation and Redesign
7. Adaption and evolution
8. Knowledge management
9. Stakeholder collaborations

Accordingly, the following functions are identified to be the functions of dynamic capabilities.

Resource creation
Resource recombination
Resource renewal
Resource integration
Organizational rejuvenation
Iterative experimentation
Business model definition
Domain redefinition

2.4.12. Conceptualizing SME dynamic capability

Based on the detailed literature review this study categorizes dynamic capabilities into three dimensions from the ability/ capability perspective (underlying which here is a process or routine)

- Strategic sense-making capacity (Neill, McKee, & Rose, 2007; Pandza & Thorpe, 2009; Weick, Sutcliffe & Obstfeld, 2005),
- Responsiveness and decision making (Benjaafar, Morin, & Talavage, 1995; Shafman & Dean, 1997) and
- Reconfiguring ability (Harreld, O'Reilly, & Tushman, 2007; Noble, 1999).

Following figure is based on the concept of house of dynamic capability proposed by Devinney et. al. (2016), and explains how sensing, seizing and reconfiguring form base pillars of the ecosystem of dynamic capabilities. Further, the classification is done at various levels - corporate, business and individual. It creates a need of inquiry to understand the internal interactions between various DC processes with the firm's existing operational capabilities. The intent is to investigate the effect of DC on competitive advantage .The purpose of the figure is to understand the micro foundations and the configurations of dynamic capabilities underlying the firm.

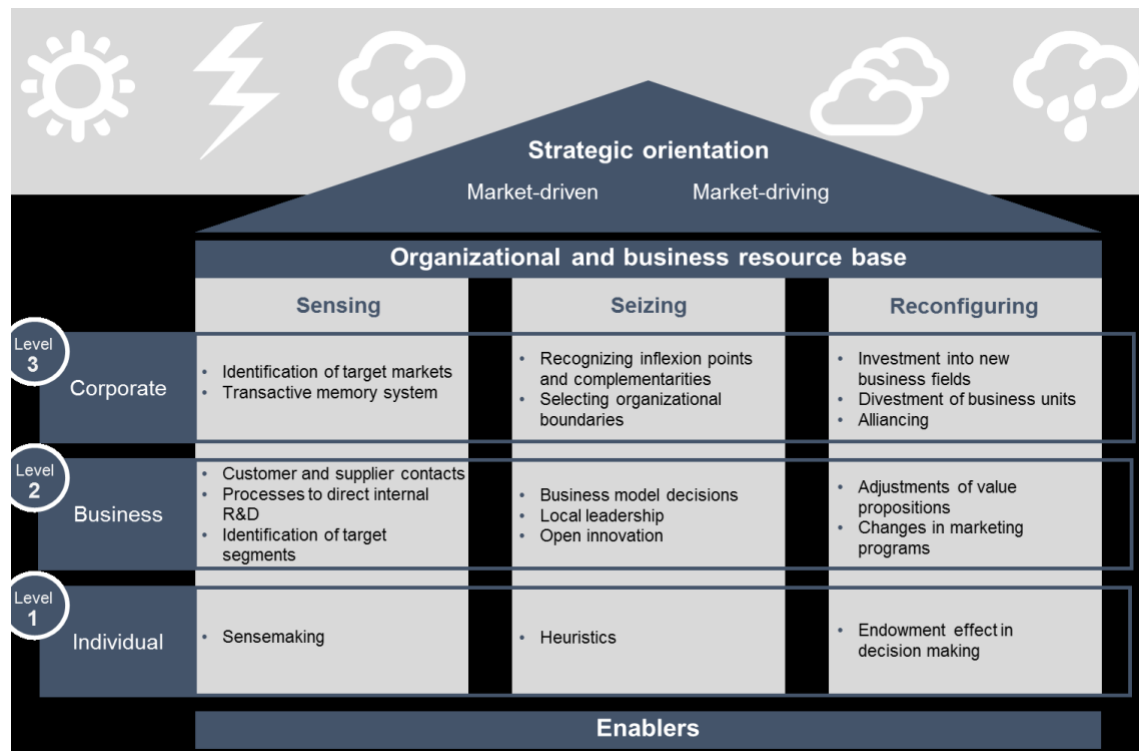


Figure: 2.3 House of Dynamic Capabilities (including sample DC processes) adopted from Devinney et.al 2016

2.4.12.1. Strategic sense making as SME dynamic capability

Business environments are characterized by fast dynamic movements in customer preferences, competitor actions and technology changes. Opportunities get generated and if not recognized timely, withers away which affects the profit streams of organizations. Sensing capabilities are made up of the capabilities necessary to scan, create, learn, and interpret complemented with investments in research and related activities (Teece, 2007). There are two sources of sensing opportunities (Kirzner, 1973; Shumpeter, 1934): one is when entrepreneurs have differential access to procure, understand and interpret existing information, and second, by way of new information and new knowledge which is sensed and fed to the firm in the form of perceived opportunities.

For identification and formation of opportunities, the firms must constantly explore, search and scan through technologies and markets, which includes local as well as distant (March & Simon, 1958; Nelson & Winter, 1982). The exercise encompasses a detailed understanding of latent demand, the structural evolution of industries and markets, and probable supplier and competitor counter responses. This needs a systematic investment in research and sensing activities and the probing iterated by re-probing of needs of customer along with and technological opportunities and possibilities (Teece, 2007).

The ability to sense and/or create opportunities is heterogeneously spread amongst individuals and firms. Opportunity generation or/and discovery by individuals needs access to information and the capability to recognize, sense, as well as shape changes. Opportunity recognition depends on how resourceful and knowledgeable the individual and firm is about the customer current needs and future needs with respect to creation of novel solutions to problems. This also needs particular knowledge, creative search, the skill of grasping decision-making processes of actors involved, and pragmatic wisdom (Nonaka and Toyama, 2007). The search activities that are relevant to ‘sensing’ involve looking for information as to what’s happening within the full context of business landscape. It is imperative for the Enterprises to search the core as well as to the periphery of their business ecosystem. Search has to be inclusive of

potential collaborators—customers, suppliers, complementors—which are active in innovative activity (Mele, C. et.al 2010).

When opportunities are initially glimpsed, firm must comprehend how to interpret new events and developments, which market segments to target and which technologies to chase (Teece, 2007). They must assess the trajectories of technology evolution and the response patterns of competitors, suppliers, and customers. Competitors may or may not see the opportunity, and even if they, do they may calibrate it differently (Leih. S. et.al, 2015). Their actions, along with those of suppliers, customers, policy makers and other stakeholders, can also change the characteristics of the opportunity and the way in which competition unfolds .Because of uncertain environment and unclear opportunities their exploitation is subject to ability of the Top management entrepreneur/leader to make sense of the opportunity being perceived and created with the objective to reduce uncertainty and provide the whole organization with a sense of direction and a clarification of the perspective locus- standi of the firm (Kuratko and Audretsch, 2009; Langlois, 2007; Schindehutte et. al., 2006; Ireland et. al., 2003). More decentralized organizations which have greater local autonomy are less likely to be blindsided by market, industry, regulation and technology changes (Teece, D. J., 2009). As the information moves up and down a hierarchy, it is possible that there might be information decay. In order to tackle this, businesses must devise mechanisms and procedures to keep management informed (Teece, 2007).

2.4.12.2. Definition of Strategic sense making ability

The basis for survival and continuity of business is generation of profits by offering products or services that meet consumers demand (Grant R.M, 2016). In this regard, it is imperative for the firms to be attentive and sensitive to the changes in external environment to discover novel opportunities and possible threats, hence the capability of strategic sense making forms the fundamental basis for survival and success in rapidly changing business environment (Zahra and George, 2002). Strategic sense-making, as dynamic capability, is a structured process to develop mental representations or cognitive maps, to sense and interpret the stimuli or change in the reference frameworks, and to effectively search for and analyze information from internal and external environment (Pandza & Thorpe, 2009; Neill et al., 2007). Sense making is about the interaction of actions and interpretations as opposed to impact of evaluation on choices taken (Maitlis, S. 2005). The effective deployment of sensing dynamic capabilities stems *“from the interaction between reflexive (e.g., intuition, implicit association) and*

reflective (e.g., explicit reasoning)” processes (Hodgkinson and Healey, 2011). Internal discussion and argument about changing markets and technological certainty could be both deductive and inductive. Recognizing, scanning and shaping depend on the ability to connect emotion to update mental representations like recognition of dissonance and on skillful use of intuitive processes for synthesis of information and form proficient judgements (Teece, 2007). This capability covers the scope of internal as well as external environment. In the context of internal environment, strategic sense-making capacity helps firms to discover the strengths and weaknesses and leverage potential of current resource bases, for improvisation of orchestration of assets (Helfat et al., 2007). This research believes that by conducting a comprehensive analysis of current resource base and environmental change, firms can develop better understanding of themselves, competitors, and other impactful stakeholders in the ecosystem.

Teece, 1997, 2007 has emphasized that sensing capabilities belong to the framing and thereafter testing of hypotheses created by the scan/ search markets and technologies. Further, in his paper Teece et al, 2007, he claims that the internal discussions and conversations (which could be layered and coated with range of biases) about the dynamics in markets and technologies are of vital utility to dynamic capabilities. Sensing capabilities produce a set of business opportunities that are first trimmed during the sensing (and shaping) processes and then further trimmed and refined when a narrower set of opportunities is chosen for processes of seizing which is the next dynamic capability.

2.4.12.3 Aspects of Strategic Sense making ability

Sensing element of dynamic capability includes dimensions of both external (i.e. environment) as well as internal (i.e. firm performance) assessment to analytically sense, filter, shape and calibrate the opportunities (Liao, J, et. al 2009, Helfat, C. E., & Peteraf, M. A, 2015). Learning and training activities and routines forms the base for the sensing capability, because it facilitates development of analytical skills and institutional system for unceasing search of novel opportunities (Inan, G. G., & Bititci, U. S, 2015, Ellonen et. al 2011). For the purpose of this thesis, strategic sensing ability is operationalized along the dimensions of ability of firm to collect economic information on their business environment and their operations, getting enriched by participation in professional activities, observing sectoral best practices, ability to perceive environmental change before competitors, and establishing processes to spot target market segments, changing customer preferences and needs and market innovation.

2.4.12.4. Conceptualizing “Responsiveness and decision making (RDM)” as dynamic capability

Seizing opportunities forms the second pillar of dynamic capability for the firm and could be referred as selecting and developing business opportunities which fit with the firms’ external environment and is aligned with their strengths and/or weakness (Teece, 2007). Thus, seizing means successful exploitation of market opportunities and evasion of threats. Seizing conduits external and internal information and knowledge, and it is closely interconnected with strategic decision-making, specifically with regard to investment decisions. Seizing capacity emerges from a strategy that facilitates the recognition of valued knowledge. This evaluation is built on prior knowledge, and it results in a selection from a range (variety) of strategic options. Within a firm, seizing capacity is high if the firm is able to take a call whether some information is of potential value, and is able to transform that valued information into concrete business opportunities and accordingly take business decisions (Teece, 2007). To measure and operationalize seizing what is crucial is firms’ skills to recognize new, purposeful information and firms’ ability to convert new knowledge (market related or technology related) into process and product novelty.

2.4.12.5. Context for operationalizing RDM as dynamic capability

The appropriate timing of deployment of dynamic capability results into right positioning and arrangement of dynamic capabilities in the firm. It is often the consequence of organisational decisions concerning the alignment of internal conditions with the market characteristics to stimulate positive outcomes of resource amendment and deployment (Fahey, Liam and Naraynan, 1986). Differences in the timing of deployment of dynamic capability arise from deliberate decisions for being first mover, or following the leader (Lieberman and Montgomery, 1988), or also may be the consequence of coincidence (Barney, 1986) or random competition (Porter, 1994). Firms that utilize dynamic capabilities early needs certain resources and capabilities for the same (Schoenecker and Cooper, 1998). Hence, firms possessing robust research and development capabilities should consider pioneering while entering a market whereas firms possessing strong marketing and manufacturing capabilities could choose to market later (Lieberman and Montgomery, 1988, 1998). Aggressive and proactive firms install dynamic capabilities earlier than firms with a cost-leadership strategy, which might hold the deployment until market and technological uncertainties have been determined (Lieberman and

Montgomery, 1998). Thus, appropriate timing in decision-making is a vital element of this dynamic capability.

2.4.12.6. Dimensions of Responsiveness and decision making (RDM) as key dimensions of dynamic capability

Seizing opportunities encompasses the appraisal of existing and emerging capabilities, and likely investment initiatives in relevant designs and technologies that are most prospective to achieve acceptance in marketplace (O'Reilly III and Tushman, 2008; Teece, 2007). This needs a combination of two elements – responsiveness and decision-making. With the objective of this thesis, seizing dynamic capability is operationalized along the dimensions of two sub capabilities - Responsiveness and decision-making (RDM) as SME dynamic capability.

2.4.12.7. Responsiveness as sub-dimension of RDM dynamic capability

Responsiveness forms the first leg of seizing dynamic capability once they are sensed. Effective sensing will lose its merit if not responded properly by the firms. As the pace of competition increases, SMEs should demonstrate responsiveness in changing environmental conditions, illustrating their ability to accommodate shifting customer preferences. This essentially implies that SMEs should capitalize on their flexible structural characteristics. Schumpeter (1934, 1950) claimed that actions and responses in a market represent a mechanism according to which some firms are leading while others imitate and follow. It relates to "*... a specific and detectable competitive move, such as a price cut or a new product introduction, initiated by a firm to defend or improve its relative competitive position. Similarly, a response is a clear-cut and discernible counteraction taken by a competing firm with regard to one or more competitors to defend or improve its position (Porter, 1980; in Smith et al., 1991)*". Actions and responses represent the core competitive 'dialogue' of the venturing process and as a driver of competitive rivalry (Chen, 1988; Porter, 1985). According to Porter's (1980) seminal work, whether an action is effective in terms of its competitiveness depends upon whether that action is challenged or if the response into this challenge was delayed. These arguments support this study's notion that firm size plays an integral part on how firms act and respond, as offensive and defensive actions are put into play in an attempt to achieve competitive cohesion.

2.4.12.8. Decision making as sub -dimension of RDM dynamic capability

Once an emerging (market or technological) opportunity is sensed, it must be captured through new products, services or processes. This demands investments for development and commercialization activities. The enterprise must also create or select a particular business model that delineates its investment priorities and commercialization strategy. The proficiency with which such biases are defeated and a new opportunity is incorporated is likely to be dependent majorly on the quality of firms' decision rules, strategies, routines and stewardship in apprising new investment avenues and opportunities. Thus, Strategic Decision making (SDM) is fundamental among the strategic process issues as it includes those central decisions which chart the course of the firm (Eisenhardt, 1992). SDM is significant in terms of actions under taken, precedents set and resources committed. SDM is one of the most impactful dynamic capability to develop. They form those infrequent decisions taken by top management which affects organization health and survival.

“If dynamic capabilities are to help organizations in “adapting, integrating and re-configuring” (Teece and Pisano, 1994: 537), decisions have to be at the heart of this process. A “capability” generally refers to a potential or capacity for action, but unless decisions are taken as to how to deploy that capability in particular contexts, then capabilities are worse than useless, they are simply wasteful and costly absorbers of resources”. (Kay 2010)

For the purpose of this responsiveness and decision making as a dynamic capability has been operationalized in this thesis on the basis of ability to recognize which new information can be used in the organization, capability to effectively utilize knowledge into new products, making timely decisions to deal with strategic problems, ability to respond as to the defects shown by employees and customer feedback.

2.4.12.9. Reconfiguration as SME dynamic capability.

The growth and profitability for a firm is attributable to its effective identification and calibration of market and technology opportunities, the sensible selection of product features and core technology, business model design, and the financial commitment to investment opportunities (Teece, 2007). They are organizational processes in the most general sense (Helfat et al., 2007a) or routines (Zollo and Winter, 2002) which may have become embedded in the firm over time, and are employed to reconfigure the firm's resource base by deleting decaying resources or recombining old resources in new ways (Simon and Hitt, 2003).

2.4.12.10. Conceptualization and definition of Reconfiguration ability

Reconfiguration capability is the organizational creative talent of combining and re-combining various domains of knowledge in order to create new products, services, models and technology. From a perspective of dynamic capabilities, reconfiguration requires collaborative efforts to relink various “nets of collaborations” across organizational borders to produce creative combinations of present capabilities (Eisenhardt and Martin, 2000). The main key for effective reconfiguration ability is the development of a collective learning mindset which motivates employees to integrate their knowledge perceptions and professional expertise and experiences through shared work (Hawass 2010). To deliver sustainable growth, a firm needs capacity to reconfigure and to recombine resources and organizational structures in the wake of firm growth and the inevitable dynamism in markets and technologies. Reconfiguration is needed for evolution of firms, and to safeguard them from rigidities resulting into obsolescence of technologies, products, processes and business models. Reconfiguration ability is also considered synonymous to transforming, encompasses combining, enhancing protecting, and, whenever essential, reconfiguring the firms intangible and tangible assets’, in such a way that inertia and path dependencies are avoided (Teece, 2007: 1319). In this, Teece (2007: 1335) terms transforming /reconfiguring as the ‘*ability to recombine and to reconfigure assets and organizational structures as the enterprise grows, and as markets and technologies change*’. In other words, transforming refers to placing business decisions and initiatives for new products, service or business model innovations into practice by implementing the necessary routines and structures providing the architecture and infrastructure, ensuring that the personnel have the requisite skills, and so forth. Transforming is considered by the actual internalization of strategic renewal within the firm through the reconfiguration of processes, structures and resources. Reconfiguring ability is similar to Li and Liu’s (2014) implementation capacity, and is defined as ‘*the ability to execute and coordinate strategic decision and corporate change, which involves a variety of managerial and organizational processes, depending on the nature of the objective*’. In this definition, implementing refers to interpreting, communicating, enacting and adopting strategic plans (Noble, 1999). Implementation capacity is the cause of existence of strategic renewal. Otherwise, new ideas and information within a firm remain merely theoretical inputs and potent changes. A firm which possess augmented transformation capacity consistently implements planned renewal activities by allocating resources, assigning responsibilities and safeguarding that the personnel gets the required new knowledge.

Lavie, 2006 identified transformation as subset of reconfiguring ability and specified three reconfiguration mechanisms:

1. Capability substitution; which proposes an instant response at the level of the overall capability portfolio;
2. Capability evolution; which comprises continual experimentation that happens at the level of specific routines; and
3. Capability transformation; which is also an instantaneous response that gets applied at the specific capability level.

Reconfiguration means the transformation and recombination of assets and resources (Bowman & Ambrosini, 2003). Reconfiguration refers to the trait to have the capacity to modify or refresh the firm's current stock of dynamic capabilities. Hence, the nature of reconfiguring ability is regenerative in nature. Reconfiguration is generally understood as recombination and transformation of assets and resources, for example, the consolidation of manufacturing resources that often happens as a consequence of an acquisition (Ambrosini et al., 2009). Reconfiguration is necessary to maintain evolutionary fitness and if needed to try and escape from unfavourable path dependencies. Reconfiguration and redeployment (Capron et.al 1998) may also involve asset-realignment activities and business model as well as the revamping of routines.

Reconfiguration also involves continuous alignment of specific tangible and intangible assets which includes decentralization, Governance, Co-specialization and knowledge management. Reconfiguring involves modification and extension of capabilities in response to changes in the market and technologies (Teece 2007; Winter 2003). Reconfiguring the resource base is the firm's capability to recombine resources and operating capabilities "*as the enterprise grows, and as markets and technologies change, as they surely will*" (Teece, 2007, p. 1335).

2.4.12.11. Aspects of reconfiguring ability

For the purpose of this thesis, reconfiguration ability has been operationalized on the basis of dimensions of implementation of novel kinds of management methods, ability to clearly define responsibilities and successful implementation of change plans, renewal of business processes, new or changed methods/ways of achieving targets or performance parameters, and consistent pursuance of decisions or planned changes.

2.4.13. Summary of literature on dynamic capabilities

The task of this part of Chapter 2 of the thesis was to present, juxtapose and develop theoretical arguments which would make subsequent empirical examinations regarding the nature and physiognomy of dynamic capabilities, under the boundaries of the entrepreneurial SME substantial and meaningful. This conceptual stream presented the underlying formation of dynamic capabilities, namely the resource-based view, especially explaining how the theoretical prism itself developed within organizational theory and where the SME stands within this stream of research. Unarguably a synthetic task, it enabled critical discussion of the resource based view's integral assumptions to accommodate dynamic terms in this representation by proposing three SME *dynamic capabilities* that are internally created, building from the integration of knowledge and representing the fundamental, most-simple and basic SME processes.

In terms of the *dynamic capabilities* debate, a handful of issues emerged as significant aspects of the phenomenon under scrutiny and subsequent literature gaps have been highlighted in this part of the chapter; assessing the debate in hierarchical terms gave the opportunity to synthesize those processes that are essential for SMEs into a broader yet far more coherent, understandable, content and process-oriented constructs. This is important given the fact that the capabilities argument has been characterized by a sense of ambiguity in definitional and contextual terms. Apart from this, eclectic synthesis of the reviewed literature enabled the development of distinctions regarding the performance tautologies associated with *dynamic capabilities*, stressing the indirect nature of the constructs and its reconfiguration, leveraging, patterning and path-dependent capacities. It is essential to proclaim that this thesis explicitly discusses *dynamic capabilities* as SME assets in the form of capabilities that relate to an evolving process whereby an organization develops capability to learn, sense, and use that learning to generate timely action to generate sources of competitive advantage. As this process is continuous, it appears to be a sustained competitive advantage.

2.5 Part C- Competitive Advantage (CA)

2.5.1 The phenomena of competitive advantage

Strategic management scholars attempt to explicate the sustainable superior performance of firms (Rumelt, Schendel & Teece, 1994). The primary hypothesis is that sustained superior performance rises from sustainable competitive advantages (Roberts, 1999; Barney, 1997; Grant, 1998). Theories differ as to the roots of competitive advantage, for example, whether superior performance is by way of monopoly rents to secured market positions (Porter, 1980; Caves and Porter, 1977) or Ricardian rents to distinctive firm-specific resources (Wernerfelt, 1984, Lippman and Rumelt, 1982); or "Schumpeterian rents" to the dynamic capability concept which fosters advantage renewal over time (Winter, 1987; Teece, Pisano and Shuen, 1997). Scholars have also argued the extent to which superior performance occurs at the level of the business unit, firm, corporation or industry (Brush et. al., 1999; Powell, 1996; McGahan and Porter, 1997; Rumelt, 1991). These debates dominate theoretical underpinnings of sustained superior organizational performance notwithstanding, the hypothesis of firm competitive advantage.

According to all foremost strategy theories, sustained superior performance exists, it has specifiable roots, and these reasons are attached to the notion of competitive advantage. Better justifications for superior performance may be available. When observed empirically, performance distributions may manifest simple heuristics, or branch from a sole process like problem-solving (Popper, 1972), or research scholars may determine that every instance of superior performance is non-generalizable, extreme and distinctive (Starbuck, 1992, 1993). Sustained superior performance, and not firm competitive advantage, is usually the dependent variable, and if another proposition provides a more rewarding understanding of firm performance, research scholars could subordinate the competitive advantage. Researchers have also debated the extent to which superior performance occurs at the level of the firm, business unit, corporation, or industry (Brush et. al., 1999; Powell, 1996; McGahan and Porter, 1997).

2.5.2 Origin and Evolution of the concept of Competitive Advantage

Strategic management has mainly three roots namely economics, sociology and psychology (Ramos-Rodríguez and Ruíz-Navarro, 2004)., Strategic management theories such as agency theory, evolutionary economics, resource-based view of the firm are derived from the economic roots of the discipline, while other theories such as Resource-dependence theory, organizational ecology, contingency theory, stem from the sociological roots (Ramos-Rodríguez and Ruíz-Navarro, 2004). The noticeable aspect of competitive advantage may stem from both the military and economic pedigrees of the strategy literature (Whittington 1993). The concept of competitive advantage has its academic roots in industrial organization model (Porter, 1980, 1985), and further by the resource-based view of the firm (Peteraf and Barney, 2003; Peteraf, 1993; Barney, 1991). Both the approaches intend to elucidate the competitive advantage of firms. Competitive advantage is a measurement indicator of a firm's success with respect to its competitors.

Competitive advantage can be achieved by either a cost leadership or a differentiation strategy (Porter, 1985, 1998). A cost leadership strategy is when a firm is able to function with more efficiency than its competitors, and yield more and better-quality goods and services than competitors which matches market price offering (Porter, 1985; 1998). Hence, lower cost of production could be a source of superior returns (Porter, 1985; 1998) where lower cost could be termed as a distinct efficiency for firms (McGrath et. al., 1996). Whereas, differentiation is where a firm is able to produce superior or unique value goods and services that ask for a premium price in the market and which matches with the competitive production cost (Porter, 1985; 1998). The premium price can then be converted into superior returns for the firm (Porter, 1985; 1998), because of it providing distinct value to firms (McGrath et. al., 1996). Differentiating attributes could range from brand, quality, distinctive features and other factors. Porter further discussed that a combination of differentiations and low-cost strategies applied concurrently by a business possible will result the company losing opportunity to earn profits and achieve higher growth. However, exceptions are there as well to his. Among these, most important is the adoption of the "narrow focus" strategy which channelizes firm's efforts on a certain group of consumers, particular combination of products or a niche geographic market. Thereafter, a firm can compete with, either low costs or differentiation, or both on its core target market.

Commonalities exist in the work of Porter (1985, 1998) and that of Peteraf and Barney (2003), as both the works studied the construct of competitive advantage from an ‘economic value’ perspective. They claimed that economic value measures the differences between perceived benefits gained by the purchasers and the economic cost to the enterprise through the provision of goods and services. A firm is said to develop a competitive advantage when it is able to produce greater economic value through either cost leadership or differentiation as compared to its competition (Peteraf and Barney, 2003). Hence, a firm does not necessarily have to be the best player in the market/industry in order to achieve market leadership or competitive advantage; it is enough if it knows as to how to generate economic value for itself.

Under current market dimensions, looking for the sources of competitive advantage has become more uncertain and complex as compared to what Porter presented earlier. Businesses functioning under the settings of hyper-competitiveness in a dynamic and unpredictably changing market condition must critically examine the quality of their assets and effectiveness of their strategic decision processes. Moreover, they must lead in proactively making market adjustments to cater increasing market needs. These interpretations provided the foundation for the development of new concepts initiated by the works of Rumelt (1984), Wernerfelt (1984), Barney (1986, 1991), Prahalad and Hamel (1980s, 1990s). They were based on three main fundamentals: Ricardian rents (economics), distinctive competencies and firm growth. At present, the studies have been joined into the concept of the resource-based view.

Recently, Avend (2014) defined CA as superior performance, typically as supra-normal returns (Cockburn et. al., 2000) or, on the other hand, as pure profits (Rumelt, 1984), as profits which are in excess of opportunity costs (Foss and Knudsen, 2003), as rent returns to that distinct factor of production that the firm is lucky enough to possess (Lippman and Rumelt, 2003: 921).

2.5.3. Resources, Competences and Competitive Advantage

One key contention of the RBV is its focus on the internal aspects of firm, and on the nature of firms to grow and to creatively combine resources for gaining competitive advantages. The Resource-Based-View of the firm (Grant, 1991; Penrose, 1959) is closely tangled to various concepts, particularly the concepts of core competences and the management of intangible assets. This perspective emphasizes that the foundation of competitive advantage is on the valued resources and competencies the firm possesses. Obtaining market leadership through competitive advantage needs distinctness in one or the other forms. This distinctiveness could

be the top price discounter or providing the highest customer satisfying service. According to Foss (1997), it is crucial is that a firm differentiates itself from other firms and cultivates its own distinctive method of satisfying its customers' needs and preferences. Uniqueness, it is argued, may be a necessary condition for achieving competitive advantage (refer the discussion of VRIN with the reference to RBV in part 2.4.3). Additionally, the linkages between firm resources, competencies and its competitive advantages are largely based on how one variable provides base and launch pad for another. Other studies concur the idea that for firms to sustain a competitive advantage, they need to focus on the deployment of firm internal resources and capabilities (Gadenne, 1998; Taggart, 1997; Rockart, 1982) and in their potential for generating rent required to sustain competitive advantage. Penrose (1959:75) suggested that: "*it is heterogeneity ...of the productive services available or potentially available from its resources that gives each firm its unique character*". She also mentioned that a firm may realize rents not just because of superior resources, but rather because its distinctive competence includes making enhanced use of its resources.

The importance of competitive advantage and the interaction relationship between competitive advantage and distinctive competences have been examined by many studies. Most of the research on competitive advantage (Love and McGee, 1999) have focused on manufacturing firms (Eloranta, & Turunen, 2015, Acar, 1993) or large organizations (Snow & Hrebiniak, 1980). The only exception was Connant et. al. (1993) who conducted a survey of 599 small apparel retailers and proposed that merchants with clearly definite strategies achieved competitive advantage, partially, because they owned comparatively more distinguishing marketing competencies. However, their study could not clearly identify particular capabilities and activities. So, this thesis infer that more research is needed whereby the concept of competitive advantage is expounded with respect to internal competencies of the firm.

2.5.4. Sustainable Competitive Advantage

Avend (2014: 77) defined SCA as "persistent CA, where the profits do not attract new production or, alternatively, where the profits survive in the face of competitive efforts to duplicate the value created by the special factors" Avend (2015:77) defined competitive advantage as "*an origin of Competitive Advantage (or Sustainable Competitive Advantage) is the original source, or ultimate source, or starting point, of superior performance*". The author defines factor as "any part of a firm's stocks (Arend, 2004), where those stocks are composed of both assets and capabilities. (Capabilities are defined as abilities to manage the use of assets

– Amit and Schoemaker, 1993).” The concept of sustainable advantage has often been understood from the Resource-based view of the firm (Barney, 1986, 1991). Some theoretical as well as empirical research on the theme by Grant (1991), Barney (1991), and Teece, Pisano and Shuen, (1997) have found that core capabilities, competitive advantage and intangible assets as a credible lens to look at the future prospects of strategy and management research. The consideration of distinctive competences (Hamel and Prahalad, 1990; Grant, 1991; Petts, 1997; Teece, Pisano and Shuen, 1997) grounded on the RBV approaches to the theory of firm competitive advantage (Porter, 1985) mentions that the traits firms need for sustainability of competitive advantage are transparency, transferability, durability and replicability (Hamel and Prahalad, 1990).

A firm is said to have sustained competitive advantage when all along through time, it is able to consistently perform better than competitors. In order to sustain competitive advantage, a firm’s inherent resources and capabilities must be hard to imitate, not easy to substitute by other resources or capabilities, not being able to rapidly develop elsewhere, and firmly attach itself to the unit that uses or deploys them. If all of these covenants are available, the appropriate mixes of resources and competencies will be combined and deployed to provide the right kind of products or services, in the right type of market, and at the right juncture. Consequently, on the basis of this the these believes that if these goals are achieved, the firm can aim and aspire to gain sustainable competitive advantage and achieve above average returns.

2.5.5. Sources of Competitive advantage with reference to SME

There are debates regarding the sources of competitive advantage. Porter (1985) argued that competitive advantage is a vital determinant of higher firm performance. The superior performance of a firm ascends from sustainable complete advantages that is obtained from either Ricardian rent, Monopoly rents, or Schumpeterian rents (Powell, 2001; Peteraf, 1993). Monopoly rents are generally gained from a secured market position with absence of competition. It has been termed as ‘deliberate restriction of output’ (Peteraf, 1993). Ricardian rents have propensity to generate firm-specific resources by intangible, idiosyncratic, intrinsic inputs such as culture, knowledge or leadership (Peteraf, 1993). Schumpeterian rents are obtained from the dynamic capability of incrementally renewing advantages through innovation (Peteraf 1993; Powell 2001).

The sources of competitive advantage for firms are better skills and resources (Day and Wensley, 1988). These bases of advantage act as structural determinants or ‘drivers’ of differentiation or cost advantages. (Porter, 1985). Sources of competitive advantage are highly dependent on the internal set of resources or tangible or intangible assets of the organization. Tangible assets include physical, financial, and technological assets whereas intangible assets are human capital, creativity, innovation and reputation (Papula et.al 2013). Sources of competitive advantage are intangible assets which comprises of human capital, structural capital, relational capital and customer capital. This view has received contradicting findings in the literature. One view argues that SMEs have unique characteristics that prevent them to develop competitive advantage as compared to large firms (e.g. Alawneh et. al., 2009) and the contrasting view argues that SME adapt faster to the changing environment than large firms, hence their resources could easily differ than their competitors (Papula and Volna, 2013). This thesis, however, stands the view that competitive advantage can be obtained by SME by developing a capability architecture by creative re-combination of its distinct internal traits and novel market knowledge in terms of its customers, competitors/suppliers. The table 2.5 compares the perceptions of competitive advantage in terms of sources, positions and performance outcomes in SME and large firms.

Table 2.5- Perception of competitive advantage- in terms of sources, positions and performance outcomes in SME and large firms. (adopted from O'Donnell et.al, 2002)

Perception of the Competitive advantage of firms	LARGE COMPANIES	SMALL AND MEDIUM FIRMS
	<ul style="list-style-type: none"> • Superior skills • Superior resources 	<ul style="list-style-type: none"> • Owner-manager's and staff network • Owner-manager's and staff competencies
	Positions of competitive advantage	
	<ul style="list-style-type: none"> • Conservative cost control • Cost leadership • Production capability • Marketing capability • Marketing differentiation • Innovation • Product quality • Differentiated benefits • Tailored offering • Customer service • Competitive pricing • Segment focus • Broad market scope 	<ul style="list-style-type: none"> • Marketing differentiation • Innovation • Product quality • Differentiated benefits • Tailored offering • Customer service • Competitive pricing • Segment focus
	Performance outcomes of competitive advantage	
<ul style="list-style-type: none"> • Market share • Profits 	<ul style="list-style-type: none"> • Profits • Customer loyalty • Organizational growth • Market share • Word-of-mouth recommendations • Acceptable overlap between business and personal lives 	

(Source: O'Donnell et.al, 2002)

2.5.6 Small and medium firms and competitive advantage

There has been comparatively scanty research that explores competitive advantage in SME as compared to research related to competitive advantage in large corporates. One primary reason is that competitive advantage in the SMEs often arises by way of accident as a consequence of particular operating and business settings arising with respect to the firm (Jennings and Beaver, 1997). Also, it is considered that traditional competitive advantage models are not fully applicable in case of SMEs as they assume the existence of economies of scale and it is acknowledged that SMEs are not able to compete with their larger firms with regard to economies of scale (Carson, 1985; Maclaran and McGowan, 1999). Nonetheless, SME are less likely to be able to and inclined to follow any particular prescriptive models, given the commonly cited characteristics of SME such as lack of resources (Dodgson, 1984; Carson, 1990; Hogarth-Scott *et al.*, 1996), uncertain market conditions (Mintzberg, 1979; Wynarczyk *et al.*, 1993) and a reactive approach to marketing (Amer and Bain, 1990; Carson and Cromie, 1990; Carson, 1993).

2.5.7. Definition and dimensions of construct of competitive advantage

Literature lacks clarity in finding an ideal definition of competitive advantage (Fahy, 2000). However, this concept is synonym sly used with distinctive competencies (Day & Wensley, 1988). With limited scope to be tailored in terms of definition, the concept of CA refers to a relative concept and it is the advantage that one firm acquires against competitor firms in a specific market, strategic cluster/group or an industry (Kay, 1993) Hofer and Schendel (1978) defines competitive advantage as the distinct position which a firm develops with respect to its competitors. Kotler (2000) defined competitive advantage as the ability of the firms to carry out its activities in or in different ways that other cannot imitate. Firms, with competitive advantage, build their base for strategy which again creates competitive advantage. According to Cao, Duan and Cadden (2019) competitive advantage is meant by a company attaining superior performance relative to its other competitors (Schilke, 2014, Lazzarini, 2015) by for achieving cost leadership or being differentiated in what its offerings (Porter, 1985), or by having a value creating strategy which is not being implemented by its competitors (Barney, 1991). For operationalization of competitive advantage, the performance outcomes are taken into consideration. These have been studied largely in the marketing literature and performance outcomes are generally measured by way of market share and profits (Day & Wensley, 1988). As regards as this research four scopes have been considered for measurement and

conceptualization of competitive advantage- market share of the firms, growth in market share- which indicates consistent rise in competitive domains, the overall competitive position of the firms as perceived by the top management and the growth in return of investment. These parameters are chosen with the objective of providing a holistic measurement of the manifested effects of competitive advantage in firms.

2.5.8 Chapter summary

The purpose of this chapter on literature review was to present three major themes that form the underlying configuration model for SME competitive advantage. The chapter discussed the theoretical underpinning of the three themes in terms of their origin, evolution and thereby gaining a credible stature in management literature. It further discussed their definition and operationalization for the purpose of this research and their linkages to other constructs in the context of SMEs. EO literature has been discussed in part 2.1, Dynamic Capabilities in part 2.3 and competitive advantage as SME performance outcome in Part 2.4. The sub theme of environmental dynamism is weaved in each of the main themes in terms of its nature and effect on the construct and overall research intent.

The domain of entrepreneurship as a phenomena and entrepreneurial orientation has a construct has been quite established in terms of research across various contexts in terms of firm, size, type, and age. Taking this as base, the study considered the contemporary concept of dynamic capabilities emanating from the resource-based view of the firm school of thought and identified a systematic literature gap in its applicability to the performance outcomes for SMEs. The motivation was due to their perceived characteristics of lack of resourcefulness, adhocracy, lack of formal structure and access to finance etc. The literature review revealed a systematic gap in studying the combination of entrepreneurship related effects and the role played by internal, higher order knowledge based SME's dynamic capabilities whose benefits ranged from mere problem solving to reconfiguring the asset base of the firm for generating and sustaining competitive advantage in rapidly changing environment.

Research on firm growth through competitive advantage has intellectual interest spanning nearly fifty years after publication of Penrose's (1959) seminal theory and there is steady suggestion by research scholars to support the notion that the development of this very useful and vital stream of research has been broad based and both empirically as well as practically fragmented.

Chapter 3

Conceptual Framework and Hypothesis development

3.1 Introduction to the Chapter

Chapter 3 summarizes identified research requirements, synthesizing previously presented theoretical streams in Chapter 2. This chapter presents an integrative conceptual framework, which specifies three themes that represent the thesis' underlying formation. For the outline of this chapter, it identifies the literature gaps and their sources, to assist subsequent development of the study's propositions and hypotheses. After summarizing the literature review stage of this thesis, it presents an integration of dynamic capabilities and entrepreneurship to develop and examine study's third and final research objective, and research question 4 (RQ4), as mentioned in parts 1.1, 1.2 and 1.3.

The aim of this thesis is to examine the relationship between Entrepreneurship and Competitive Advantage and determine the impact of internal firm characteristics within the same conceptual framework. This exploration is worthy for study as it attempts to create a linkage between the assertions of dynamic capabilities to contribute to the competitive advantage of smaller types of organizing systems(SME). If the interplay between entrepreneurial orientation and dynamic capabilities is positive and beneficial, it helps in establishing a framework of examining dynamic firm assets and their potential contribution to gain a position of competitive advantage, thereby facilitating the growth process of SMEs. This conceptualization highlights the need for deeper understanding on the process aspect of dynamic capabilities - which implies that SMEs can and should develop such higher order knowledge driven competences along with manifesting entrepreneurially oriented traits; a combination which is beneficial for competitive advantage of SMEs in dynamic business environments.

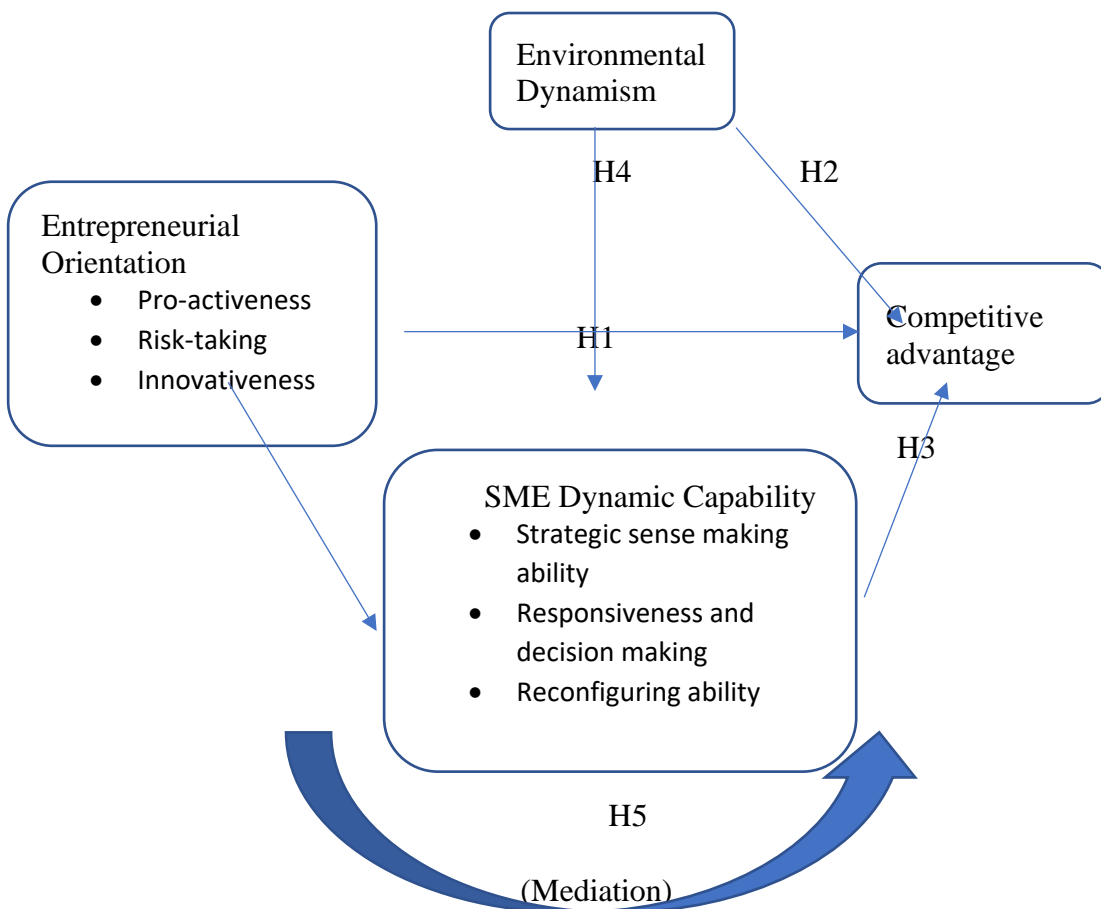
This thesis, in this chapter, aims to draw theory-driven propositions to assess this relationship comprehensively.

3.2 Synthesis

This thesis is driven by the aspirations to better understand the interactions of entrepreneurial orientation and dynamic capabilities on competitive advantage of SMEs in Indian (an emerging market) context. It also aims to and introduces aspects specifically highlighting the physiognomy of SMEs. There is widely held consensus that this relationship is positive, however there has been scanty research in emerging economy context.

Along with inherent conceptual differences, there seems to be tautological confusions on the individual and synergistic impact of action of entrepreneurial orientation on competitive advantage, dynamic capability and competitive advantage and their interaction effects or simultaneous presence of both on firm competitive advantage. The thesis not only aims to test these relationships empirically but also intends to provide a contribution to the literature regarding the differential value addition of each construct as well as the value added by dynamic interactions between entrepreneurial orientation and dynamic capabilities possessed by the firms by understanding their scope of juxtaposition. This thesis also brings in the perspective of influence of environmental dynamism on competitive advantage, on the relationship between entrepreneurial orientation and competitive advantage, and on the relationship between dynamic capabilities and competitive advantage. Thus, the gap and confusion identified in literature is addressed in this thesis and the premises are reassessed in empirical terms. The theoretical framework in the form of research model is presented in the below Figure 3.1

Figure 3.1 - Theoretical Framework



The effect of an entrepreneurial orientation: The conceptual argument linked with the direct effects of EO on firm outcomes is presented on chapter 2, part 2.1. This examination attempts to confirm the notion that the interplay between predictor and dependent variable is positive, given the fact that associations between the manifest and nonfinancial performance are less straightforward (Rauch *et al.*, 2009:764). This examination is also beneficial as it specifically addresses and moves beyond the dimensionality juxtapositions of EO, an issue that is conceptually examined in chapter 2, part 2.3. To make this assessment viable and fruitful, this thesis responded to the call for alternative conceptualizations of EO (Covin *et al.*, 2006:80). In this thesis, the direct relationship is scrutinized in the form of both uni-dimensional and multidimensional examinations respectively, enhancing understanding on how each aspect of a firm's propensity to innovate, take considerable risks and proactively act towards profitable opportunities influence competitive advantage of firms.

The nature of SME dynamic capabilities: This part resonates the sentiment that SMEs' *dynamic capabilities* are unique for investigation as what applies in large firms may or may not necessarily have the same relevance for SMEs. This has to be empirically examined as the literature lacks consensus on whether such assets contribute to competitive advantage. And, to do so, this thesis the theoretical premises of the resource-based view in order to conceive three *dynamic capabilities* for SMEs, discussed in chapter 2 representing internal knowledge-driven constructs which *can* be developed by SMEs, become embedded in their structures, manifesting their most fundamental, basic and simple iterative processes. This view captures the characteristics of SMEs and corresponds to calls for examination of their nature (Zahra *et al.*, 2006:919).

The influence of environmental dynamism: Environmental dynamism is a widely-explored construct in the entrepreneurship and strategy literatures. It denotes the degree of instability or turbulence of such components in the firms' ecosystem as market and industry conditions, and including technological, economic, social, and political forces (Dess and Beard, 1984). The basic concept of environmental dynamism deals with any change in firm's external environment. A four-dimensional view on the environmental dynamism construct encompassing unpredictability, ambiguity, complexity, and velocity is its most recent development (Davis, Eisenhardt, and Bingham, 2009). Research suggests that many firms inhabit increasingly dynamic environments where subverting forces such as technical innovation, globalized competition, and entrepreneurial action operate with larger frequency (Schreyögg and Sydow 2010; Wiggins and Ruefli 2005). Environmental dynamism

destabilizes a firms' competitive environment. It creates high uncertainty which makes it challenging to understand and strategize firms' dynamic interactions with external environment (Sirmon, Hitt, and Ireland, 2007; Milliken, 1987; Duncan, 1972).

3.3 The direct effect of an entrepreneurial orientation (EO) on competitive advantage of firms

This part summarizes research gaps identified in this thesis and 'dismantles' the conceptual terrain into two separate propositions that guide the empirical assessment of hypotheses 1-4 in subsequent parts of examination.

3.3.1. Uni-dimensional proposition

Previous conceptual discussion in part 2.4 regarding the relationship between entrepreneurial orientation and firms' competitive advantage serves the basis to justify the decision to assess the direct effects of EO on SME growth. The research gap under these premises is quite straightforward. It is argued that the effect size is small for direct effect of EO on competitive advantage of Indian SMEs (Wales et. al, 2013). Indian SMEs are traditionally known for being risk averse and conservative in innovation. They are perceived more of family business firms rather than having entrepreneurial flavor which could make them more focused on revenues rather than competitive advantage. This argument dictates empirical attention necessary for better understanding the relationship between entrepreneurship and competitive advantage for Indian SMEs. The relationship between entrepreneurial orientation (EO) and firms' competitive advantage has been thoroughly scrutinized from both empirical (Gitau et al., 2016; Lechner and Gudmundsson, 2014) and conceptual point of view (Alvarez and Busenitz, 2001). EO is understood as a starting point for formulation and implementation of competitive strategies. Therefore, investigation of EO and competitive strategy is a promising research effort (Lechner and Gudmundsson, 2014; Rauch et al., 2009; Wales et al., 2011). Van Geenhuizen et al. (2008) noted that EO has emerged as a possible antidote to the problems facing businesses that wish to achieve a sustained CMA. Thus, there is a particular interest in enriching the understanding of EO in an SME context.

The comprehensive literature on the relationship between EO and competitive advantage suggest an uncontested general positive link (Baker and Sinkula 2009; Rauch et. al., 2009; Sadler-Smith et. al., 2003, Barroso-Martínez et. al., 2016; Hernández-Perlines et. al., 2016). By using EO, firms meet the new and latent needs of market. Several studies demonstrate the positive influence of EO on competitive advantage (Madsen, 2007; Wiklund & Shepherd,

2005; Zahra & Covin, 1995). Although the empirical results are contrasting, EO acts as a credible antecedent to growth and performance differences in firms, in both domestic and foreign markets (Kuivalainen et al., 2007 cite more references). The construct of EO is related with the new market opportunities and the renewal of existing areas of operation (Hult & Ketchen, 2001) which are the drivers of superior performance. This thesis is an effort to bring more clarity to the role played by EO towards competitive advantage of SMEs.

Building on the examined literature, the first hypothesis is formulated;

H1- Entrepreneurial Orientation has a positive effect on competitive advantage.

3.3.2 Multidimensional proposition

This part of proposition corresponds to the dimensionality debate developed and discussed in chapter 2 and echoes the call for alternative conceptualizations of EO (Green *et. al.*, 2006:80), addressing the following research gap;

" More recent theorizing suggests that the dimensions of EO may occur in different combinations (Covin *et at.*, 2006; Lumpkin and Dess, 2001) each representing a different and independent aspect of the multidimensional concept of EO (George, 2006). As a consequence, the dimensions of EO may relate differently to firm performance" (Rauch *et at.*, 2009:764)"

To do so, a set of linear relationships are proposed in this thesis, with the second set of propositions conceptualizing multidimensional properties of the effect of risk taking, innovativeness and pro-activeness on SME growth independently.

3.3.2.1 Pro-activeness as a dimension of EO

Pro-activeness signifies how a firm relates itself to the opportunities offered by marketplace and captured by taking initiatives (Li et al., 2009). Proactive firms pursue particular and valued resources provided by the environment to augment their competitive advantage (Huang and Wang, 2011). These resources can be channelized, utilized and employed in various profitable initiatives. This enables the firms to seek, invest and exploit in productive opportunities. As a result, they are more likely to create conditions for obtaining competitive advantage yielding higher performance (Rosenbusch et al., 2013). For SME intending on getting competitive advantage by offering unique differentiated high-quality products needs to provide both design and value-added benefits (Porter, 1980). In order to do so, firms need to demonstrate pro-

activeness and possess a precise understanding of consumer preferences (Dess et al, 1997). In the context of SME, if they intend to be active in identification and exploitation of venturing opportunities, they have to be pro-active (Gitau et al., 2016). The cost of opportunity identification is reduced if the firms have traits of pro-activeness. Pro-activeness, as a dimension of EO, enables the firms to inculcate a culture or routine of adopting continuous scanning of markets and business environment in advance of their competitors which raises its ability to offer value to its customers and markets better and faster. The pro-activeness develops firm's willingness and ability to sense and anticipate new developments earlier than competitors imparting a "first mover" advantage over reactively identifying development and trends. Therefore, proactive firms are inclined to be initiators and in return can obtain favorable market positions, high returns, brand building and access to distribution channels (Li et al., 2009). This gives the firms competitive edge and improves market performance by increasing market share. Based on the above discussion, following hypothesis is proposed:

H1a: Pro-activeness has positive effect on firms' competitive advantage.

3.3.2.2. Risk taking as a dimension of EO

Risk-taking signifies a predisposition to take aggressive and bold actions such as venturing into unknown businesses and markets, committing significant portion of resources to ventures with uncertain outcomes, and/or borrowing heavily (Li et al., 2009; Walter et al., 2006). It involves the willingness to commit significant resources to opportunities, which have a good chance of failure (Frese et al., 2002). Risk-taking mainly reflects the organization's willingness to escape from the tried and tested and venture into the uncertain and unknown arena (Wiklund and Shepherd, 2003). It also allows SMEs' owners and senior managers to make deals bearing good return potential and it should, therefore, generally be positively linked to successful firm outcomes (Frese et al., 2002). Firms develop unique products in anticipation of getting market share and thereby having competitive advantage. Such pursuits involve risk taking as the customer demand is unpredictable and uncertain (Dess et al., 1997). Differentiation strategies for the pursuit of competitive advantage involve expending resources through research and development, marketing new products and services and promoting brand image (Porter, 1985). In addition, firms with making large resource commitments obtain high returns by seizing opportunities in the marketplace (Lumpkin and Dess, 1996). Therefore, risk-taking should be more important for CMA in SMEs. In summary, the risk-taking dimension develops firm's willingness and ability to commit resources to projects whose outcome is uncertain. If

strategies are sound, the firm has strong chances to reap higher returns inherent in risky initiatives leading to higher performance. This leads to following hypothesis:

H1b: Risk-taking ability of firms has a positive effect on firms' competitive advantage.

3.3.2.3. Innovativeness as a dimension of EO

The innovativeness of firms cultivates their intentions and commitment to introspect, critique and shed the present or existing context and settings thereby providing scope for novel and creative ideas and experiments. This innovative thinking results in the launch of novel or improvised products, or improvised products/ services/ models by exploring new markets and driving efficiency by way of process innovations. This improves the strategic posture of firms to deliver competitive advantage. Innovation enables businesses to present novelty in terms of products/processes and technologies to the market before competition increasing the propensity for high market share and competitive advantage. Several firms have been thriving successfully because of innovation, creating competitive advantage for them (Goksoy et al., 2013, Lim et al., 2010). Firms use innovativeness as a trait to create competitive advantage by producing things other than competitors, doing things better than others in market, or by introduction of value-adding, superior, faster and cheaper services (Aziz & Samad, 2016). Innovativeness, as a trait, enables the firms to tackle long-term competition by collecting knowledge and skills in technology, and experience and expertise in creativity and ideation resulting into products, processes or business model innovations. This leads to heightened market share

Porter (1998) claimed that constituents of competitive advantage originate from the ability of a firm to maximize the efficiency of its production processes, to provide superior quality products and services, and to offer services to which more customers embrace with higher satisfaction Through the trait of Innovativeness, firms discover new ways to operate or to function more efficiently. Innovativeness helps the firm in identification of new market space (Kuratko et al., 2001). Differentiation strategy for generating competitive advantage needs ability of innovativeness which leads to new product development which eventually adds better value to the customer and can also justify premium process charged (Lechner and Gudmundsson, 2014) which can give competitive edge to the firms. The firm should be engaged on continuous innovation to keep up to its competitors (Gitau et al., 2016). Hence, higher levels of innovativeness lead to higher competitive advantage. Thus, it is hypothesized that:

H1c: Innovativeness has a positive effect on firms' competitive advantage.

3.4.1 The Effects of Environmental dynamism (ED)

The second theme which is under discussion is the direct and indirect effects of environmental dynamism on SMEs' competitive advantage. The direct and indirect effects are separately discussed in following sub-sections:

3.4.2 The direct effect of environmental dynamism(ED) on the entrepreneurial orientation (EO)– competitive advantage (CA) relationship:

Environmental dynamism is referred to the uncertainty of future developments (Kreiser, P., & Marino, L, 2002) Uncertainty arises from unavailability, ambiguity and asymmetry of information on future events, their causes and consequences, as well as the applicability and consequences of alternative responses to these events (Khandwalla, 1972). SMEs differ fundamentally from large corporations in this regard. Performance of SMEs often depends critically on favorable environmental conditions because they lack the resources needed for survival and growth. They are usually somewhat deprived in processes and activity channels across the value chain, production processes and marketing opportunities. Hence it is more difficult for SMEs to cope with environmental threats and have less holding capacity to bear and act on potential losses caused by environmental dynamism jolts.

A dynamic, uncertain external environment offers scope and opportunities for firms, but at the same time the firm becomes vulnerable to various risks. This can put firms under pressure and as a consequence of without the intervention of firms' strategies and resource allocation, their competitive advantage could be adverse. To provide an example - technological change opens up new growth and profit avenues for firms that are able to sense and exploit opportunities along the new technology trajectory. With high environmental dynamism, the outcomes of strategic actions are highly unpredictable when dynamics are involved. Consequently, decision-making is more difficult in dynamic than in stable environments and repercussions of wrong strategic decisions are usually more severe (Henderson, Miller, & Hambrick, 2006). Also, existing knowledge may become obsolete whenever major shifts in technology or market demand occur (March, 1991). Learning to enhance knowledge is impeded by a lack of adequate feedback in dynamic environments (Levinthal & March, 1993). Along with potential opportunities resulting from high environmental dynamism, there are large number of threats and risks connected with uncertain unpredictable and turbulent environments.

Hence it is hypothesized that:

H2: Environmental dynamism has a negative effect on competitive advantage.

3.5 The direct effect of dynamic capabilities

Attention now maneuvers towards discussing the study's third literature theme regarding the nature and magnitude of direct effects of SME *dynamic capabilities* on the dependent construct. This assertion points towards a broader research requirement to re-assess the performance tautology of *dynamic capabilities* as a whole and to explore their distinctiveness on SMEs. This has been demonstrated on chapter 2, parts 3.3.1 and 3.4 respectively. Authors conceptually described the phenomenon and its epiphenomena, representing prescriptions of how *dynamic capabilities* are developed on the basis of the 'firm', ignoring the uniqueness of small businesses. Within this stream of thought, scholars call for studies examining the nature, development process, emergence or evolvement of SME *dynamic capabilities* taking into consideration that those firms are characterized by resource scarcity, lack of knowledge formations and expertise in generating and manipulating Capabilities (Zahra *et al.*, 2006:919).

3.5.1 Hypothesis for direct effects of SME dynamic capabilities on competitive advantage

Dynamic capabilities are those capabilities which work on the resource base, pick up elements bearing roots of competitive advantage and reconfigure the same in the light of changing environment. This process is ongoing and continuous to give a sustained advantage (REFERENCES). Dynamic capabilities are considered essential for sustaining competitive advantage of firms (Teece, 2007). Given the difficulty in forecasting nature of competition arising in future and the dynamic market conditions, firms, especially SMEs, need to be flexible as regards as market entry timing and in decision making for responding to the calls of business environment (Sher and Lee, 2004). The impact of dynamic capabilities on competitive advantage has been a key debate among scholars, who have hypothesized a positive influence of dynamic capabilities on firm competitive advantage (Drnevich and Kriauciunas, 2011; Protogerou *et. al.*, 2011). Several studies have examined the direct influence of dynamic capabilities and firms' competitive advantage (e.g. Wu, 2010; Hou and Chien, 2010; Ogunkoya, Hassan, and Shobayo, 2014). The theoretical dynamic capabilities view (DCV) literature that argues for a positive relationship between DCs and performance for any firm, including entrepreneurial ventures, is in-depth (Pisano and Teece, 1995; Teece *et al.* 1997; Cavusgil *et al.* 2007; Eisenhardt and Martin 2000; c Zahra *et al.* 2006). The empirical support across several studies in the DCV for the positive relationship between DCs and performance is also extensive and largely consistent. Few Scholars have researched that dynamic capabilities can increase firm competitive advantage by assisting to change their operations both efficiently and effectively, for example to equip the firms with new strategies, new

knowledge and skills, new market segments and new organizational forms, new modes of growth -e.g. internalization. Prior studies that examined the direct link between firms' financial performance with their dynamic capabilities indicated a significant positive relationship (Adner and Helfat, 2003; Lampel and Shamsie, 2003; Narasimhan et. al., 2006; Wu, 2007; Yalcinkaya et. al., 2007). Contextually, Marcus and Anderson (2006) found that dynamic capabilities had an influence on firm competencies in supply chain management in the retail food industrial sector whereby dynamic capabilities helped to flexibly solve the allocation challenges in supply chain networks. Similarly, O'Reilly and Tushman (2008) found that dynamic capabilities could integrate organizational resources to which kept the costs low and asset utilization high consequently increasing competitive advantage as a response to addressing changes in environment. Thus, it is the effect of dynamic capabilities on competitive advantage is a relevant contingency which forms one of the main focus of this research. As well, systematic change to the resource base may result in significant performance differentials because these activities allow the organization to accumulate knowledge about how to change and with fewer costs, and thus increase congruence with the environment (Zott, 2003). Supporting both resource-based and evolutionary benefits of dynamic capabilities, it provides empirical evidence for the positive performance implications of dynamic capabilities abound (Morgan et al., 2009; Schilke, 2014). In the context of this research, since the firms are small and new, the role played by dynamic capabilities and the leveraging of resources and capabilities and providing a perennial flow in incorporating new sources of competitive advantage within an industry environment is an extremely daunting task. However, some of the scholars argue that dynamic capabilities do not manifest the characteristics of heterogeneity, thus cannot be a source of competitive advantage (Arend & Bromiley, 2009; Eisenhardt & Martin, 2000), and the role of dynamic capabilities is limited (Zott, 2003) and indirect (Wang & Ahmed, 2007). As the nature of sustainability (of advantage) is rapid and unpredictable (O'Neil and Usbasaran, 2016), it has been implied that successful sustainability requires constant adjustments, which could be enabled and facilitated by dynamic capabilities (Arend, 2014). Dynamic capabilities maintain the alignment of marketing and technology capabilities with conditions of market environment (Danneels 2008; Protogerou et al. 2012), which could result into performance differences across firms. In the small entrepreneurial firms, there is a thin line between competitive advantage and firm performance as the competitive advantage gained is clearly manifested in superior performance and hence competitive advantage and firm performance mean the same for the purpose of this research. Thus, it is hypothesized that:

H3: Dynamic capabilities have positive effects on competitive advantage.

3.5.2 Individual effects of dynamic capability constructs on firm competitive advantage

The discussions regarding the individual effects of each dynamic capability construct (as conceptualized in chapter 2 on competitive advantage of SMEs) are presented in this subsection. The research intends to attend to the specific effect caused by each dynamic capability construct (strategic sensing, responsiveness and decision-making ability, and reconfiguring) to understand the integrative research model more clearly.

3.5.2.1 Strategic sense making ability and firm competitive advantage.

A distinctive sensing capability is important for firms to possess to reap the benefits of resources to be converted into tangible realized outcomes such as competitive advantage (Zhang and Wu, 2013) in dynamic and globally competitive environments (Teece, 2007). Sensing making is an ability to spot, interpret, and diligently pursue opportunities in external environment (Pavlou and El Sawy, 2011). This capability necessitates searching and exploring technologies and markets alike which are both local as well as distant from the firm (Hodgkinson and Healey, 2011; Teece, 2014). This gives a positive influence on producing more innovative products and acquiring faster speed to market (Zhang and Wu, 2013) or on improving the performance of new ventures (Jiao et. al., 2013). Strategic Sensing includes searching and exploring across markets and technologies (Teece, 2007), in such a way that reflects the firms' ability to learn about competitors, customers and wider market environment (Day, 1994). It can be applied using a range of processes, such as maintaining relationship with suppliers, customers, complements and universities.

Along these lines and given the trait of SMEs to have more personal relationship with their key customers (Coviello, Brodie, and Munro 2000), it is understood that accessing relevant information would be easier for them especially if the competitive domain is relatively narrow and is functioning in close networks (Coviello et. al., 2000; Hisrich, 1992). It is suggested that strategic sense making capability initiates in detecting changing opportunities from the external environment and thereby offers SMEs a way to enhance their competitive advantage (Remedios Hernández-Linares et. al., 2018). A better sensed opportunity has a good chance to be converted into fruitful outcomes in form of decisions, strategies, innovation all of which can

lead to competitive advantage (Li, D. Y., & Liu, J, 2014.). When the firms strengthen their emphasis on their customers, markets, competitors and technologies, they are in a position to understand the context better. For SMEs, if using the right sense making capability, firms are able to match the current and emerging needs of their customers they are better placed to capture increased market share. When SMEs purposefully engage in observation to the need and trend existing in the market, they are able to follow the preference of innovation desired by the market. SMEs who have sensing capability will increase their product innovativeness (Zhang & Wu, 2013) which can give competitive advantage. Firms that learn about their environment tend to be more innovative (Calantone, Cavusgil, & Zahao, 2002; Keskin, 2006). Firms engaged in proactive searching activities will motivate its employees to utilize and to combine knowledge and newest information to develop new products and services features (Laursen & Salter, 2006). Hence, learning capability or market sensing can increase superior performance (Day, 1994, 2002; Tseng & Lee, 2014; Vorhies & Morgan, 2005). Organizations that have sensing processes as firm routines increase their market knowledge and understanding of underserved market segments (Slater and Narver, 2000) and their current customer base (Morgan et. al., 2005). Even if the firms have minor advantage in strategic sense-making, it could transform into a potential strategic advantage for the enterprise (Haeckel, 1999). The firms possessing strong sense-making capacity may take proactive search initiatives and detailed interpretation of information obtained in order to acquire more information and even better understanding of the environment faced by them (Neill et. al., 2007). This, in turn, ensures faster response to competitor moves, and refined understanding of customer needs, more novelty in new product development resulting into competitive advantage (Li and Lu, 2014). Summarizing these arguments, we hypothesize that;

H 3.1: Strategic Sense making ability has positive effect on firms' competitive advantage

3.5.2.2 Responsiveness and decision-making ability and firm competitive advantage

Responsiveness is demonstrated by coordination and speed with which the actions are implemented and reviewed periodically. It also refers to evaluation of under or over fulfilling goals and correcting them accordingly and to interdepartmental coordination and cooperation (Kohli, Jaworski, and Kumar, 1993). For SMEs, the ability to effectively recognize the value of information obtained through sensing and translating it into decisions and choice of strategic options is vital for their competitive advantage because SMEs might not have access to sophisticated analytical tools and systems. This is particularly true as in many cases where

SMEs belong to industrial sectors with 'informal' architecture of suppliers, customers and other networks. Hence, the detailed and analytical information regarding customers, competitors and other stakeholders may not be formalized, published or easily accessible except through good relationship references and owner personal and professional networks. Certain decisions relating to choose of firms' positioning in market and technology investments have impact on their competitive advantage. When firms are able to make quick decisions and respond faster, they become more responsive to changes in customer needs and are able to reduce cycle time, thus providing greater value to its customer segments and improvement in the excellence of its organizational processes (Cao, Duan and Cadden, 2019).

Firms obtain competitive advantage directly from its developing valuable, rare, and inimitable information processing capability and indirectly from improving its decision-making effectiveness (Davenport, 2006; Kiron & Shockley, 2011). This means that by being more responsive, the firm are able to perform improved capturing, integration and analysis of data/information and make purposeful use of this information and insights. As a result, firms possess accurate and complete information. Along with responsiveness, if the firms are endowed with good decision-making ability, they are in better position to comprehend the causal relationships between their choices and outcomes This results into novel, differentiated or less costly products and services .With better responsiveness and decision making, the firms are able to make consistently comprehensive and rational choices, make faster and timely decisions than ever before, and demonstrate a confident and decisive disposition in a rapidly changing market (Cao, Duan and Cadden, 2019). Effective decision-making enables firms to understand and serve customers better and increase loyalty of customers (Lavallo et al., 2011; Davenport, 2013) make decisions faster and timely than ever before (Davenport, Harris, DeLong, & Jacobson, 2001; Kiron & Shockley, 2011); and "empower employees to act confidently and decisively in a fast-paced marketplace" (Kiron& Shockley, 2011, p.12)or "act more quickly"(Kiron, Prentice, &Ferguson, 2012. This dynamic capability is the combined attribute for responsiveness and decision making as dynamic capability.

Overall, DC can positively affect competitive advantage by increasing learning in organizations (Zollo and winter 2002). For example, employee motivation in SMEs where there are employees who enjoy equity in the firm to compensate for higher salaries which SMEs may not be able to afford. This increases the personal monetary stakes of employees and hence, they strive to be successful and also feel responsible for the strategic decision-making activities of the firm (Panayiotopoulos, 2009). This would provide them opportunity to raise, build and

deploy dynamic capabilities for betterment of the firm in terms of competitive advantage or performance. Thus, the proposed hypothesis is as follows:

H 3.2: Responsiveness and decision-making ability has positive effect on firms' competitive advantage.

3.5.2.3. Reconfiguring ability and firms' competitive advantage

The firms' capacity to form novel capabilities, reconfigure their structures processes, and transform their asset base and to generate new valued resource combinations are vital for maintaining competitiveness in rapid change (Teece et. al., 1997). The organizational interventions resulting into reconfiguration of resource base and their performance implications have multiple examples. Re-engineering of processes, promotion of new organizational practices leads to performance improvement (Sikdar, A., & Payyazhi, J. (2014). The effective and pro-active implementation of newly crafted organizational practices and strategies improves productivity (Taplin, 2006). It also allows firms to match up their resource base to the needs of dynamism in business environment. When the business environments are dynamic, if the reconfiguration is ongoing in the organizations, it facilitates prompt adjustments to organizational misalignments and rapid response to novel opportunities (Eisenhardt and Martin, 2000). Prior research has shown that new-age human-resource-management practices increase flexibility in firms (Huang and Cullen, 2001), and have a positive impact on productivity (Ichniowski et al., 1997), effective innovation management (Laursen, 2002) and performance of foreign-subsiary (Fey and Bjorkman, 2001). Hence, firms that are vigorous in implementing new methods, strategies, and processes with the objective to match their internal environment variables with the imperatives of the external environment are better equipped to gain competitive advantage than their counterparts.

Moreover, with the change of product portfolio and their elements, internal strengths and external environment, the original strategies and vital resources may not be in a position to help organizations progress forward and longer or even become obstacles for further development (Leonard-Barton, 1992). The competitive advantage once gained by the firms will only be sustained if it modifies, sheds, acquire assets, and re- designs business models across the value chain as necessary to determine and ensure correct direction. This can be facilitated through internal and external learning (Lavie, 2006). With the help of capacity to reconfigure through change implementation capacity, the firms are in a position to renew existing strategies and asset bases in order to adapt to changed business environment (Newey & Zahra, 2009). Firms

can exploit new opportunities and explore novel sources of deriving economic value by reconfiguring their business in creative ways. (Galunic & Rodan, 1998). This, in turn, would impact the firm's expectation of the final outcome of competitive advantage. Thus, the processes of strategic reconfiguration influences performance of firms (Helfat & Peteraf, 2009). They help the firm to adapt more swiftly in-turn creating a series of temporary advantages (Teece et. al., 1997, Helfat et. al., 2007). Thus, the proposed hypothesis is as follows:

H 3.3: Reconfiguration ability has positive effect on firms' competitive advantage.

3.6 Indirect effects- Moderation

The Theory presented in Chapter 2 discussed the study's notion that entrepreneurial SMEs are differentiated from non-entrepreneurial firms on the basis of creation of opportunities for growth. This is consistent with Alvarez and Barney (2005; 2007) who conceptually drawn these prescriptions, aiming to connect entrepreneurship and opportunities from a resource-based logic. This thesis embraces this link in order to examine in depth whether firm-level attributes influence the relationship between *entrepreneurial orientation* and competitive advantage. This predominantly echoes Lyon *et al* (2000: 1055) who argued in favor of examining contingent relationships in order to offer better explanations of performance outcomes.

The following sub-section discusses what *kind* of indirect effects should be depicted in order to advance understanding for entrepreneurship research, taking into account the unique nature of the organizing systems under examination as well as the complexities associated with entrepreneurship and SME performance outcomes (Wiklund and Shepherd, 2005).

After confining the broader conceptual domain, a research necessity for better presenting the overall scope of this investigation, attention now turns into presenting the propositions that drive the need for detecting indirect effects as means for explaining the balancing act of contradictions within smaller organizing systems.

3.6.1 The moderating role of environmental dynamism on EO-CA relationship

While environmental dynamism alone affects the performance negatively, it has been researched in literature that most entrepreneurial firms perform well in dynamic environmental conditions. Most research concurs to the fact that EO leads to better performance when environmental dynamism is high. We have assumed that entrepreneurial orientation is an inherent cognitive ability of firm to pursue entrepreneurial activities. This ability is activated in the presence of dynamic environment which gives the firms edge for high performance. This

research claims that an entrepreneurial firm is disposed of high rates of innovation and challenges for catering to changing market, technology and customer demands and dynamic environment provides ideal context in terms of competitive environment. Environmental dynamism creates new opportunities which motivates the firms to explore and exploit these opportunities through entrepreneurial pursuits (Zahra, 1991). A dynamic environment breeds an innovative behaviour of firms and an orientation towards high-risk decisions (Miller & Friesen, 1984). Also, family firms with an emphasis on innovativeness and risk-taking perform better in dynamic environmental conditions (Lumpkin et. al., 2005). Thus, Entrepreneurial firms identify the scarce emerging opportunities in dynamic environments and exploit them before businesses that are considered to be less entrepreneurial and this is bestowed to their higher orientation towards risk and pro activeness. Also, firms that are more entrepreneurially oriented can take advantage over firms that are less entrepreneurially oriented but in a hostile environment. Moreover, environmental dynamism positively intensifies the influence of innovation strategies and firm growth (Moreno and Casillas, 2008). Firms, in dynamic environments, more proactive and aggressively competitive firms achieve better results (Lumpkin and Dess, 2001). Sales growth of family firms has positive association with three dimensions of EO (i.e. risk taking, pro activeness, and environmentally hostile conditions) (Lumpkin and Dess, 2001). Hence, it is summarized that majority of the existing literature concurs that environmental dynamism and EO have an interactive influence on firm growth and thus, entrepreneurial firms are not just affected but they thrive on environmental dynamism for superior performance. This triggers a proposition that environmental dynamism provides as an input rather than just a mere effect increasing the robustness of environmental orientation-performance relationship. Hence, it is clear that environmental dynamism exerts an intervening or moderating effect on the relationship between entrepreneurial orientation and firm performance.

The moderating role of environmental dynamism has been well researched by cases studying a variety of relationships between organizational variables and firm performance (Gilley, 2000). For example, Zahra (1993) provided evidences showing that environmental hostility has a positive moderating effect upon the association between EO and the financial performance of firms; Lumpkin and Dess (2001) asserted that the relationship between EO and firm performance is positively moderated by the dynamism in business markets. Contrastingly, Wiklund and Shepherd (2005) claimed that in case of a sample of Swedish firm's dynamism in markets negatively moderated the relationship between EO and performance outcomes. However, in a neutral view Frank et al. (2010) researched that there was no moderation of

market dynamism on the relationship between EO and firm performance. Becherer and Maurer (1997) claimed that while there is a high correlation relationship between EO and firms' profitability, no evidence was found to show that environmental hostility or turbulence had a moderating effect on that relationship. The relationship between EO and firm performance effects was claimed to be strengthened in presence of hostile and dynamic environments (Zahra and Covin 1995; Kraus et al. 2012). Thus, the literature lacks consensus in this regard. The lack of consensus about the relationship between EO and performance, and the positive moderating effect of environmental uncertainty triggers a need to investigate this relationship in depth in different contexts. This is even more important because of the hyper competitive conditions faced by firms of all sizes face in today's economy worldwide (Hausman, A., & Johnston, W. J. ,2014, Lahiri S. et.al, 2008, Lumpkin and Dess, 1996). Environmental dynamism is a critical factor for SMEs to gain substantial value from exploring as well as exploiting their entrepreneurial orientation This thesis takes proposes that environmental dynamism strengthens the direct effect of EO and competitive advantage. Based on the above discussions and building on our previous argument, the proposed hypothesis is as follows:

H4: Environmental dynamism positively moderates the relationship between entrepreneurial orientation and competitive advantage.

3.7 Indirect Effects- Mediation

Discussion on chapter 2 emphasized that *dynamic capabilities* are higher order constructs, reconfiguring the pattern of resource stock allocations according to the needs of the firms (Zahra et. al., 2006:924). This thesis conceives *dynamic capabilities* as inherently knowledge-based (Wiklund and Shepherd, 2003; Miller and Shamsie, 1996). It is assumed that SMEs' growth represents a strategic decision to commit the firm's internal resource and capability 'arsenal' to achieve this objective. The success of entrepreneurial action of the firm leading to competitive advantage is by the deployment efforts of dynamic capabilities present within the firms.

The term *statistical mediation* or simply *mediation*, denotes to a *causal chain* in which it is presumed that the effect of one or more independent variables is transmitted to one or more dependent variables through third variables. In the simplest form, the term *mediation* is used to indicate that the effect of an independent variable (X) is transmitted to a dependent variable (Y) through a third mediator variable (M). Therefore, statistical mediation refers to a causal sequence such as $X \rightarrow M \rightarrow Y$ (MacKinnon, Fairchild, & Fritz, 2007). A mediator variable is

very useful to help understand the mechanism through which a cause (independent variable) produces an effect (dependent variable) (Fairchild & MacKinnon, 2009).

The roots of the research related to mediating variables is found in psychology have long recognized the importance of mediating variables. Woodworm's (1928) S-O-R Independent Variable Mediator Outcome Variable model, which recognizes that an active organism intervenes between stimulus and response, is perhaps the most generic formulation of a mediation hypothesis (Kolb & Taylor, 2013). The central idea in this model is that the effects of stimuli on behavior are mediated by various transformation processes internal to the organism. Theorists as diverse as Hull, Tolman, and Lewin shared a belief in the importance of postulating entities or processes that intervene between input and output (White, 1943). Skinner's black box approach represents the notable exception (Slater, 2005).

Moreover, Baron and Kenny (1986) asserted that the evidence for mediation is strongest when there is an indirect effect but no direct effect, which they call "full mediation." When there are both indirect and direct effects, they call it "partial mediation." Although full mediation is the gold standard, Iacobucci (2008, 12) notes that, "when all tests are properly conducted and reported, the majority of articles conclude with 'partial mediation'". That is, mediation is usually accompanied by a direct effect.

3.7.1 The interplay between entrepreneurial orientation and dynamic capabilities – The mediating role of dynamic capabilities

EO helps firms to survive and generate value for firms and their owners (Zahra, S.A, 2005, Zellweger, et.al, 2012). In the competitive and dynamic environment, firms possessing high EO develop new strategic orientations and business platforms based on new opportunities in the market. EO creates a mind-set for acquiring or mobilizing right resources and a firm properly endowed with *dynamic capabilities* guides the evolution of a firm's resource configuration (Zott, 2003), and leads to high performance (Teece et. al., 1997, Winter, 2000). The *dynamic capability view* explains performance differences between small enterprises based on their entrepreneurial orientation, reaction and adaptability to changes in the environment. This needs proactive behavior along with certain innovative responses and a risk-taking attitude especially when market entry and exit timings are critical, the rate of technological change is rapid, and the nature of future competition and markets are difficult to determine. In dynamic environments after seizing opportunities, entrepreneurial firms have to reconfigure their resources and routines to achieve competitive advantage and superior performance (Teece et al., 1997). An entrepreneurial firm is receptive to new information, committed to learning and is continuously engaged in information acquisition and dissemination (Huber, 1991; Sinkula,

1994). Moreover, the orientation of firm's owners and senior managers towards interpreting environmental issues, how they perceive uncertainty and complexity, will affect their decisions and actions (Aragon-Correa and Sharma 2003). Hence, Dynamic capabilities of a firm maximizes the influence of EO on performance. Thus, dynamic capabilities leverage on entrepreneurial orientation to manifest new forms of competitive advantage. Certain innovative responses are required when time to market and timing are critical, the rate of technological change is rapid, and the nature of future competition and markets is difficult to determine. With increased EO, firms may be able to sense trends and opportunities to leverage their knowledge-based resources in advance of their competitors and to take the risks needed to pioneer new products or services in prospective market (Wales, Parida, Patel, 2013). Thus, EO also facilitates in fostering the levels of dynamic capabilities in the firms. Thus, it is posited that relationship between EO and performance will be mediated by the dynamic capabilities. This means that firms with entrepreneurial orientation that have high dynamic capabilities will have higher performance compared to firms with lower dynamic capabilities. Based on the above discussions, the following hypotheses is proposed:

H5: Dynamic capabilities mediates the relationship between EO and Performance

3.8. Research model

The layers of conceptual thoughts have been integrated in figure 3.1 above. This represents the conceptual 'map' of this thesis. The study's research model in Figure 3.1 graphically illustrates those views, depicting a unifying image of SME competitive advantage, stemming from the above discussion, elaborating the relationships that hold potential for empirical demonstration in the following parts of examination. Connecting the research and conceptual models, apart from the confirmatory notion of the relationship between entrepreneurial *orientation, dynamic capabilities and* small competitive advantage in the context of dynamic environment this study argues that the rest of the examination is exploratory in principle. The above hypothesized relationships between the concepts have been explicitly constrained in the context of smaller enterprises aiming to systematize the complex empirical relationships between entrepreneurship, internal firm characteristics and SME competitive advantage in a comprehensive manner (Bacharach, 1989).

3.9. Chapter summary

This thesis approached the phenomena under scrutiny in deductive terms, aiming to develop, examine and test theoretically driven hypotheses (Gray, 2004) whereas interactions between elements give the study a broader scope that corresponds to the third discussed literature theme. This chapter principally served the study's synthesis and conceptual development needs, to represent a connection between theory and praxis. Such an approach is beneficial for generating hypotheses that have strong normative background. Essentially this view represents the 'what' and 'why' of this research effort with the following chapter interchangeably introducing methodological underpinnings illustrating 'how' this research effort is accomplished.

Conclusively, this effort outlined the literature gaps into an eclectic yet critical fashion and this approach is unarguably beneficial for stressing and tightly defining a set of organizational conditions under which such phenomena occur. This 'isolation' strategy is essential for fulfilling a mandatory limitation associated with survey research in the social sciences, where data and their analytical procedures become the main source of emphasis neglecting the fundamentality of conducting research aiming to highlight such linkages and the wider conceptual domain of application (Hutton, 1990; Bacharach, 1989).

Chapter 4

Research Methodology

4.1. Introduction

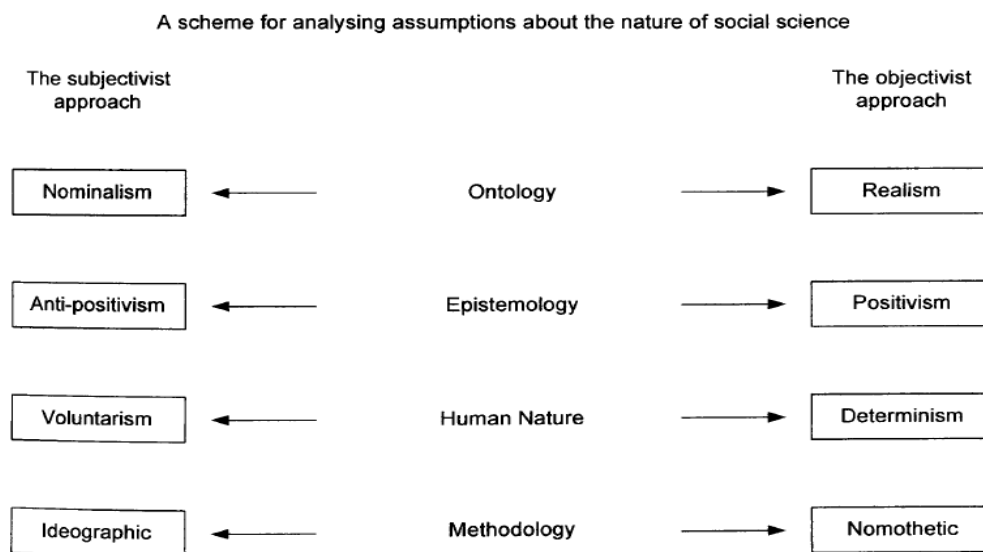
The methodological aspects form the core base for subsequent empirical demonstrations of the relationships among the constructs of theoretical framework. A research model has been prepared after addressing the research gaps from literature. After that research process has been navigated to its core. Appropriate methodology tools are chosen by considering underlying philosophical assumptions, followed by crafting of research design, and justification of choice of data collection and analytical processes. The latter are also tightly coupled with aspects concerning data access and the ethical dimensions of this research. Such an approach is mandatory as *"all theories of organization are based upon a philosophy of science and a theory of society"* (Burrell and Morgan, 1979:1). Examinations of relationships between dynamic aspects such as entrepreneurship contribute to knowledge regarding SME growth which represents a wider and socially complex phenomenon. These associations have an explicit intellectual partnership, underlying ontological, epistemological and human nature assumptions representing a philosophy of science that attempts to explain social phenomena grounded within a sociological context. This chapter brings clarity by relating the integrative theory and its individual linkages as presented in earlier chapters and embrace dispositions that would make the connection with the empirical 'realm' coherent as much as meaningful. This is unarguably a synthetic task due to the fact that the growth trajectories of small enterprises ontologically represent a complex amalgamation of developmental procedures. Lindgren and Packendorff (2009) rightfully argue that the vast majority of published research in entrepreneurship is missing systematic argumentation of basic philosophical assumptions on science (Aldrich and Baker, 1997; Pittaway, 2005)

4.2. Research Philosophy

This part of this chapter presents an overview of the ontological and epistemological strands that shape and formulate the methodological rationale of this thesis. Research philosophy essentially reflects the background of knowledge formation. In organisational studies, Burrell and Morgan's (1979) seminal work highlighted the complexities of organisational thoughts and raised a fruitful debate regarding the value of paradigms on knowledge creation (Pittaway, 2005). Within this stream of thought, Burrell and Morgan (1979) elaborated four sets of philosophical assumptions with two opposing strands to

this discourse. These are the objective versus the subjective strands and the regulation versus radical change dimensions (Pittaway, 2005). Figure 4.1 below illustrates the organising scheme that subsequently is developed into Burrell and Morgan's (1979) suggested four paradigms.

Figure 4.1- A scheme for analysing assumptions about the nature of Social Science



(Adopted from Burrell and Morgan, 1979:3)

The ontological strand as a branch of metaphysics represents the broadest assumption presented here and is concerned with the nature of 'realities' under investigation, that is, the very essence of the phenomena under scrutiny. It addresses a phenomenon's nature of 'being', objective or subjective in its underlying formation. On the one hand, the '*realist*' perspective stresses that reality is a state that is set 'out there' in the world while the opposing, '*nominalist*' view, argues that the phenomenon represents the product of individual cognition. Ontology represents insights regarding the nature of existence, primarily attempting to understand *what is* and *how it is* (being qua being). In terms of the tradition or 'orthodoxies' associated with the ontological stream is the Heraclitean ontology of *becoming* and the Parmenidian ontology of *being*. Heraclitus emphasized continuous movement (the non-static nature of being), interpenetration and absence whereas Parmenides viewed reality composed of clearly formulated entities with

identifiable properties (Gray, 2004). The epistemological strand is a branch of philosophy concerned with the ways in which nature of being is known. . In other words, it is a discourse that investigates the nature of knowledge (ways, methods and strategies of knowing) and offers insights on meanings knowing. The ways in which an agent might acknowledge and interpret the world thus arriving at some form of a new understanding necessarily presupposes a set of assumptions regarding the sources and forms of knowledge. Epistemological inquiry is engaged with what constitutes knowledge, its formation and communication (Pittaway, 2005). Epistemologically, debates are usually divided into the '*positivist*' and '*anti positivist*' perspectives. The former explains and predicts a set of causal relationships whereas the anti-positivist perspective rejects the search and certainty of causality and regularity in social phenomena and firmly holds the view that the nature of the social world can never be reduced or acquitted with that of the natural world. The knowledge produced in social sciences is fundamentally different from the knowledge produced in the natural sciences. It was a move to deconstruct and to some extent, to problematize the paradigm of the natural sciences that colonised and established itself as the foundational paradigm for the social sciences too. In the context of this research, an inquiry about epistemology is essential for clarifying issues regarding research design (Easterby - Smith *et al.*, 1991) presenting a framework for data gathering and interpretation (Gray, 2004). Stemming from the ontological and epistemological perspectives are the assumptions regarding the relationship between the agents and their surrounding environment. Burrell and Morgan (1979:2) stress that as human life is the epicentre of inquiry, two distinctive strands can be identified regarding the nature of an agent's response to the situations encountered in his or her external world. On the one hand, there is a '*deterministic*' viewpoint where the actions of an individual are directly affected by the situational propensities and the environment. In other words, the political, social and *economic* circumstances are the factors that determine the individual's actions and "life". On the other hand, the '*voluntarist*' view emphasizes individual autonomy and free-will as the foundational principle of social, political and economic life. For instance, the political implications of entrepreneurship presuppose an autonomous individual who, to a certain extent, can manipulate and overcome the boundaries set up by his or her economic environment. It could also be argued that "entrepreneurship" is tied up with agents' contemporary understanding of democracy: the conditions of possibility to achieve economic and political autonomy belonging potentially to every individual irrespective of class and previous environment. These assumptions influence broadly the

methodological underpinnings as a practical set of tools that formulate and communicate such knowledge. Another important assumption concerns the way in which a society works, continuing the simplistic duality, two more strands can be identified. The first, called the "*sociology of order*", proclaims that every society is stable and its main structures remain more or less constant. The second, called the "*sociology of conflict*", assumes that structural conflicts occur and society is in a state of instability, change and fluidity (Pittaway, 2005). A different set of methodological tools corresponds to each perspective, affecting the way in which knowledge is 'excavated'. Social science research is divided between two approaches: first one that examines the social world according to the model offered by the natural sciences albeit hard, real and external to the individual and second one that views or examines the social world highlighting its "soft", "subjective" and personal aspects. Adapting to the either view has scientific merits as well as limitations. Burrell and Morgan (1979:3) represent the two ends of the continuum calling them '*ideographic* and '*nomothetic*'. Ideographic research is based on the subject's first- hand experience while nomothetic research is based on systematic testing in accordance to scientific principles. Organisational analysis is "paradigmatically partitioned" (Gioia and Pitre, 1990) with a dominant paradigm reflecting a specific core of assumptions about the nature of organisations (Kuhn, 1970; Lincoln, 1985) and knowledge that arises typically from different conceptual domains (Astley and Van de Ven, 1983). Within this stream of thought, each partition reflects the metaphysical assumptions concerning the nature of agency and society that were discussed above. Figure 4.2 offers a clear albeit simplistic typology of these partitions that constitute the epistemic domain of organisational analysis.

Figure 4.2- Four paradigms of social sciences research

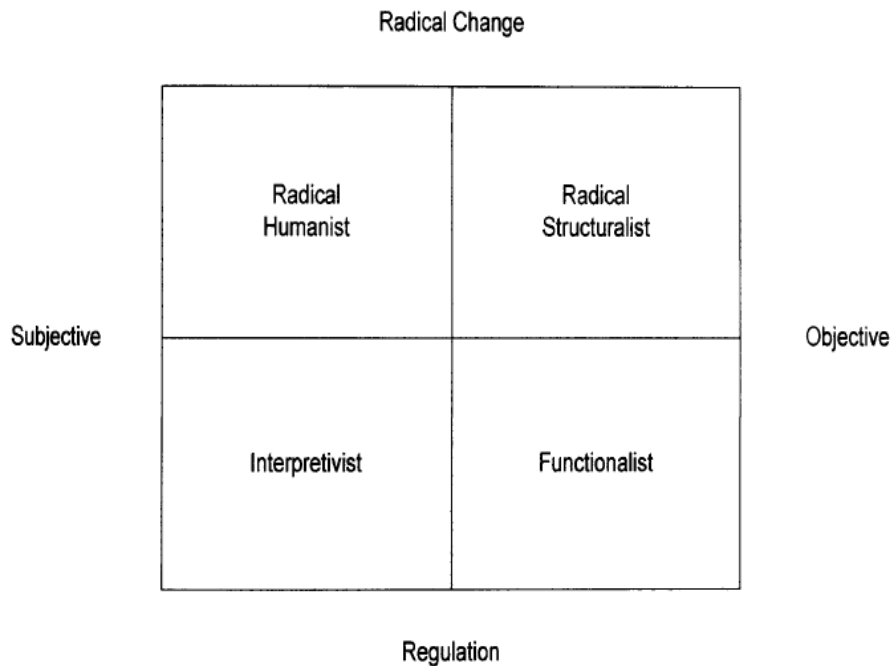


Figure 4.2: Burrell and Morgan's (1979) four paradigms (adopted from Burrell and Morgan, 1979:22)

The objective versus subjective and the regulation versus radical change dimensions of sociological thought lead towards the development of four 'paradigms' of social sciences research. These dimensions demonstrate different philosophical orientations that are contiguous but separate implying that there are some shared characteristics between the four but also some distinct differentiations (Pittaway, 2005). These paradigms receive following "labels": the functionalist, interpretivist, radical humanist and radical structuralist. According to the *functionalist* paradigm, the world of organisations is depicted as an objective one, stressing the hard, observable, measurable, empirical realities. The *interpretive* paradigm is based upon a subjectivist view with a clear concern of regulation, namely, policy. (Morgan and Smircich, 1980). Finally, the *radical humanist*, consistent with a subjectivist view, suggests an orientation towards changing realities while the *radical structuralist* paradigm shares an objective stance and ideologically leans towards the radical change of structural realities (Gioia and Pitre, 1990: 586). Despite being unarguably beneficial, representing different forms about the essence of social science research, Burrell and Morgan's (1979) four paradigms sparked

fruitful debate and this debate revolved around three interrelated themes (Pittaway, 2005). The emphasis was on the nature of the paradigms themselves that predicated a vast proportion of these criticisms (Weaver and Gioia, 1994). Some scholars argued on their unification propensity (Pfeffer, 1993), stressing the requirement to develop new ones (Willmott, 1993a; Jennings, Perren and Carter, 2005) and others arguing that these paradigms are useful in representing different understandings concerning social and organisational phenomena (Scherer and Steinmann, 1999). Scherer and Steinmann (1999) explored the possibility of the paradigms themselves representing measurable proportions and whether communication among them is probable. Some scholars (e.g. Jackson and Carter, 1991) offered restrictive interpretations while others questioned the capacity to represent multi-paradigm views (Hassard, 1998; Holland, 1990; Gioia, Donnellon and Sims, 1989; Gioia and Pitre, 1990). Finally, Scherer and Steinmann (1999) argued that the very partitioning into paradigms is problematic and suggested other alternatives. Davies (1998) and Weaver and Gioia (1994) were the critic of the model explained above. They asserted that social science debates are complex in nature and alleged that the classification of paradigms by Burrell and Morgan's (1979) oversimplified such complex debates. According to them, the dissolution of metaphysics of the world of social science is just not limited to simplistic and dualistic typologies.

4.2.1 Entrepreneurship research and its disciplinary status

In entrepreneurship research, cumulative knowledge of the setting and underlying premises of the phenomenon exists, leading towards conceptual progress (Davidsson, 2009; Shane and Venkataraman, 2000; Lumpkin and Dess, 1996) which provides a theoretical platform to build upon (Acs and Audretsch, 2003a). In terms of methodological rigour, the domain has improved significantly (Chandler and Lyon, 2001) presenting research that is theory-driven and has appropriate qualitative and quantitative 'fittings' (Low and MacMillan, 1988; Davidsson *et al.*, 2001). Yet, the notion is that the domain "... *has not come far enough, fast enough*" as rightfully argued from Low, (2001: 17). Scholars are undecided on whether entrepreneurship research has explicit conceptual boundaries (Venkataraman, 1997; Shane and Venkataraman, 2000; Busenitz *et al.*, 2003) and whether it is growing or enhancing its dimensions (Sexton and Smilor, 1986). These tensions represent a 'disciplinary utopia' (Steyaert, 2005) that has, to a great extent, philosophical and methodological shortcomings. The disciplinary status

- illustrated in definitions, conceptual frameworks as well as methodologies – receives sheer critique (Davidsson *et al.*, 2001) and this confusion stems primarily from three sources - the 1. Definitional, 2. Contextual *focus* (Lumpkin and Dess, 1996) as well as 3. Levels of analysis (Low and MacMillan, 1988). Many also emphasise the need to study networks and processes above and beyond entrepreneurship at the individual or firm levels (Dodd and Anderson, 2007, Brown *et al.*, 2001; Gartner, 2001.). Lindgren and Packendorff (2009) rightfully argue that the vast majority of published research in entrepreneurship is missing systematic argumentation of basic philosophical assumptions on science (Aldrich and Baker, 1997; Pittaway, 2005). Central to this thesis is the idea that entrepreneurship as the phenomenon under scrutiny has demonstrated, by definition, multidisciplinary focus and thus, integration of perspectives would benefit their research and subsequent theory development. Such a view shares some conceptual companionship (Wiklund *et al.*, 2009) yet due to its very nature, examination would be futile if basic assumptions are 'absent' from such an effort. Addressing and understanding underlying philosophical assumptions and their limitations is, by definition, a synthetic task which subsequently leads towards embellishment of theory building within a specific paradigm. By elaborating and achieving consistency among the conceptual, philosophical, methodological and analytical facets, this study reaches maturity and represents a coherent realm. Therefore, the following parts of the philosophical partition of the methodology chapter are devoted in highlighting and discussing these core assumptions regarding the functionalist paradigm and how this is manifested in the study of entrepreneurship. In entrepreneurship research, the point of departure is "*the norms of average behaviour*" (Stevenson and Jarillo, 1990:20) presenting comprehensiveness in terms of choice of paradigms and methods (Savage and Black, 1995; Sandberg, 1992) with theorists arguing that empirical interpretations examining key contingencies should be unarguably beneficial (MacMillan and Katz, 1992; Davidsson *et al.*, 2001). This assertion leads towards a paradoxical view of the phenomenon of entrepreneurship and its published research, stressing on the one hand, the needs and value of deterministic viewpoint while at the other accepts, the role of the individual in the process of enterprising as being the fundamental component of success (Bruyat and Julien, 2000). This is merely an implication of oversimplifications associated with the study of entrepreneurship and its 'concrete' theoretical background.

4.2.2 Theory building in the functionalist paradigm

Gioia and Pitre (1990) argued that for developing theory - a cyclical process of generating, testing and refining assumptions - the core paradigmatic dispositions should be explicitly linked and drive the process. Such a strict framework enables research to meaningfully represent deducted hypotheses into a comprehensive framework, corresponding to the call for attention, in particular, the areas of investigation and avoid 'force-fit' theory building techniques. As the functionalist paradigm addresses the normative foundations of science being rooted in regulation, theory building under these premises starts with reviewing the current literature streams – in this thesis addressed in chapters 2 - to identify research gaps that are either neglected or require scholarly attention and derive hypotheses – as addressed in chapter 3- either in the form of prior theory extensions, explanatory focus or both. Within this framework, theory advances as a result of primarily quantitative inquiries that verify or reject hypotheses, leading towards refinement of the original theory (Gioia and Pitre, 1990). To tackle the previously stated paradox regarding the individual within a functionalist framework, this thesis corroborates Covin and Slevin's (1991) assertions for studying entrepreneurship as manifestation of firm behaviour. This reminds that the definition of entrepreneurship as new economic activity embraces firm growth under these premises. One of the fundamental implications of the functionalist paradigm is that it neglects the role of the individual with its explicit focus of hard, objective 'facts' with functions and the system before people (Jennings, Perren and Carter, 2005). Therefore, it is argued that this conceptualisation avoids some of the definitional and tautological fallacies presented.

4.2.3 Theory building in the interpretivist paradigm

Jennings, Perren and Carter (2005) inform that interpretivists, in the same strand with functionalists, are concerned with societal order and regulation of the status quo. The difference between the two paradigms lies in the observed realities which here are seen as subjective, through the eyes of the individuals. Within this paradigm, organisational realities are socially and symbolically constructed and sustained (Morgan and Smircich, 1980) and theory building under these premises generates descriptions as the system of interpretation is revealed (Gioia and Pitre, 1990). Within this stream of thought, organising entities develop a form of patterned activity that serves as symbolic

representation of activity (Barley, 1986; Mehan, 1978). In this thesis, theory building, opposed to functionalism, is more inductive and research has a broader and more abstract focus. The basic theoretical underpinning is to understand the world through the eyes of the respondents, in such a fashion that the analytical forefront essentially develops theory concomitantly, cyclically and nonlinearly (Gioia and Pitre, 1990). In this thesis, the respondents have an essential role in theory formation (Strauss, 1987; Eisenhardt, 1989). Here, the theory development in the interpretivist paradigm contributes strongly. This is because of the fact that the notion of *dynamic capabilities* here are conceptualised in a unique fashion. This requires a broader, subjective yet coherent view of entrepreneurship as firm formation through the eyes of the entrepreneurs themselves. Entrepreneurs are the agents of change that make profitable 'interventions' to their environments and contribute to the society by creating economic and social wealth. This is exactly what social inquiry in entrepreneurship attempts to 'capture' the knowledge that is created through the interactions between agent and the world.

4.2.4 Multi-paradigm view in entrepreneurship

Multi-paradigm view in entrepreneurship is required within the field of entrepreneurship. The vast majority of investigations are located within the grounds of the functionalist paradigm (Jennings, Perren and Carter, 2005) representing entrepreneurial actions as rational realities that lead to organizational behaviour that is illustrated through hypotheses testing. Underlying the vast proportion of organizational theories is the assumptions about reality as given or a product of one's mind. Unarguably, management science is influenced towards determinism with a substantial proportion of investigations neglecting the role of the decisions of the individual and the impact of such decisions on examined phenomena (Shepherd and Wiklund, 2009). This is unarguably problematic when concepts are applied in the SME arena, typically characterised from simple structures and decision-making stemming from an individual entrepreneur or a small management team (Mintzberg, 1978; Lubatkin *et al.*, 2006) where the 'firm' itself is closer to the notion of Knight's (1921) entrepreneurship. Jacobides and Winter (2007) discuss this as a simple model where the entrepreneur has a 'value-adding' set of ideas under unitary control. This highlights the role of the entrepreneurs in entrepreneurship. On the other hand, firms are indeed constrained from the capabilities that already possess (Langlois, 2007) and this argument is well documented throughout chapter 2 of this

thesis. Inherently antithetic, the aforementioned views essentially dictate the simultaneous use of different paradigms for better understanding and grasping the realities of organisational life. Wiklund and Shepherd (2005:5) rightfully argue that *"the destiny of the small business is not completely determined by the characteristics of the environment and other factors outside the control of the firm but is highly dependent upon the decision its management makes"*. These claims are now traced back in their philosophical bases and this thesis argues that there are two fundamental issues in the pursuit of new knowledge. The "essential problem in science" (Suppe, 1977) is concerned with the ontological and epistemological bases as discussed in the beginning of this chapter. To address this issue, this study is in full line with Goles and Hirschheim's (2000:249) assertions that *"...knowledge is not infallible but conditional; it is a societal convention and is relative to both time and place"*. Bochner (1985) rightly argue that a 'uniquely correct' perspective cannot exist and as organisational realities are heterogeneous, *"... a pluralistic, multiple-perspectives view becomes a necessity for achieving any sort of comprehensive view. Such a multiple - perspectives view requires that organisational theorists consider the set of theories relevant to a given topic from some viewpoint beyond that of an individual paradigm"* (Gioia and Pitre, 1990:595). Jennings, Perren and Carter (2005:2) sum up this consideration; *"... despite the controversy between incommensurability and interparadigm transcendence, the breadth and richness of knowledge and understanding is surely enhanced by an acceptance of the need for pluralism."*

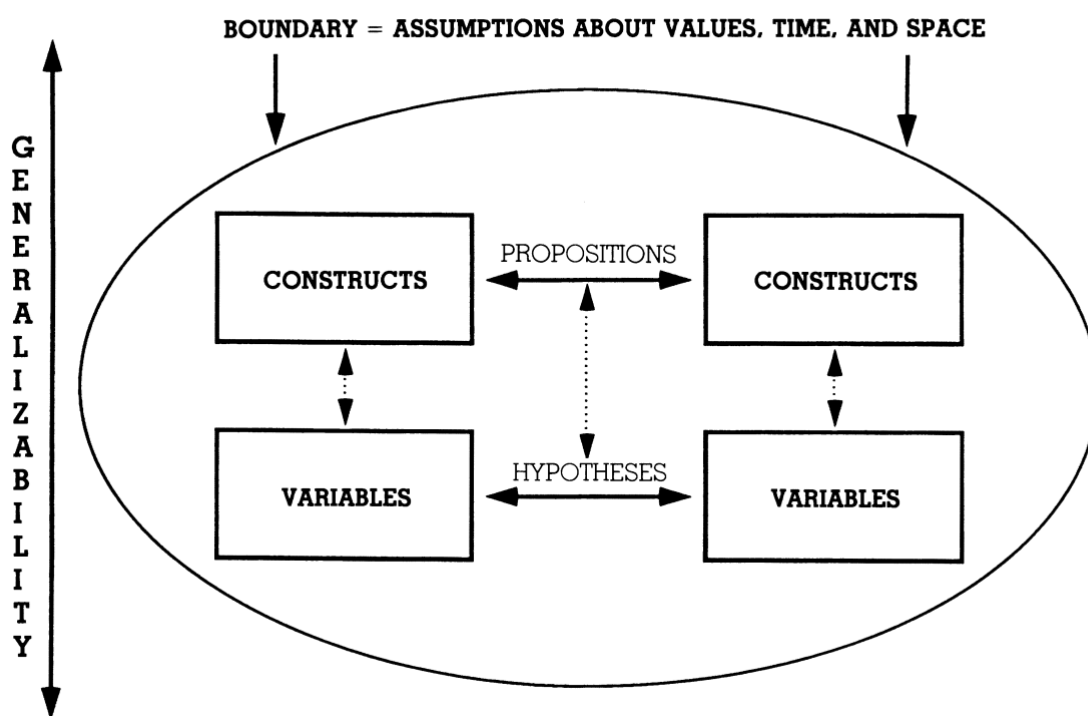
4.3. Theoretical framework, Constructs and Variables

Theoretical framework is the fundamental building block of all researches. Scholar propose the theoretical framework for their research which includes the base for development of the main research inquiries and hypothesis. A properly narrowed theoretical framework provides the conceptual map that defines the boundaries of the research, tests related theories, and leads the methodology design considerations. The theoretical underpinnings and the detailed theoretical framework have been discussed in chapter two and chapter three respectively.

According to Anfara (2008:3), a theoretical framework is understood as any empirical/quasi-empirical theory of psychological and/or social and/or processes, at a range of levels (e.g., grand, mid-range, and explanatory), that can be useful for understanding of any phenomena.

Constructs and variables are the vital parts of a theoretical framework. Bacharach (1989: 498) has defined theory as “a system of constructs and variables in which the constructs are related to each other by propositions and the variables are related to each other with hypotheses. Figure 4C includes all the parts of a theory as claimed by Bacharach (1989). The hypotheses are the statements which connect variables that derived from constructs whereas propositions could be regarded as the linkages between the constructs.

Fig 4.3: Components of a theory



Source (Bacharach, 1989)

Constructs are “terms which, though not observational either directly or indirectly, may be applied or even defined on the basis of the observables”, Kaplan (1964: 55). Literature describes constructs as broad and vague concepts that are made up of specific and observable units that are titled variables. According to Lazarsfeld (1955) variables describe the constructs in a quantitative and objective way.

A significant stage in each research is the mode of operationalization of the variables and constructs and also the demonstration of applicable measures that will be used. Construct

operationalization should consider the issues of validity and reliability. Construct reliability and validity is vital for testing of theory and it is generally defined as the degree to which construct operationalization is able to measure the concepts which it is ought to measure (Bagozzi et al 1991, Cook and Campbell, 1979). Despite the existence of a robust theoretical framework, there could be a measurement error resulting into confirmation of incorrect hypothesis and vice versa. According to Venkatraman and Grant (1986) the constituents of validity are:

- **Content Validity** is referred as it is to the degree with which the empirical measurement is reflecting a particular construct” (Venkatraman and Grant, 1986). For this research, it is addressed by encouraging the academics, experts and SME owners and senior managers to comment on the content of tools of research.
- **Internal consistency** comprises of the concepts of reliability and uni-dimensionality. Uni-dimensionality refers to the extent to which various items reflect merely single underlying construct. For the purpose of this research; exploratory factor analysis is used to ascertain the items which are loading on one single factor. Reliability is a concern of whether a specific technique, repeatedly applied to the same object, would produce the same results every time. (Saunders et.al, 2007). The most popular measure of internal consistency is Cronbach’s Alpha (1951). It was utilized to assess reliability of scale for respective factors. In this research, the minimal accepted value for the alpha coefficient was kept as 0.6 (Hair et al., 2006: 137).
- **Convergent validity** reveals the extent to which two measures capture a common construct. It refers to the degree of which several attempts to measure the same construct with different measures are in congruence (Bagozzi et al 1991, Venkatraman and Grant, 1986). Thus, it can be inferred that that if there are two measures then both of them would be in agreement in measurement of the same type of construct. Zikmund et.al (2013) support that convergent validity is recognized when the concepts that should be related to each other, are related in fact. All the items in respective construct will be scrutinized so that their convergence could be demonstrated and validity could be established. In Chapter 6 related to Factor analysis, testing of Convergent validity would be done by

using the measure of (AVE) Average Variance extracted. It is the average quantity of variance in the indicative variables that a construct is supposed to describe. This validity is successfully achieved when loadings in are high enough within the range 0.7 and 0.9 (Carlson and Herdman, 2012) and the value for minimal level of acceptance is 0.5.

- **Discriminant validity** refers to the degree by which a variable/ concept varies from other Variables or concept (Venkatraman and Grant, 1986). The key rationality of this validity is that if one variable is distinctive from the other, then its measurement value should not be highly correlated. For current research, the criteria is that the square root value of Average Variance Extracted (AVE) for respective construct should be higher than the inter-item correlation between other constructs (Bhattacharjee and Sanford, 2006, Kim and Malhotra, 2005, Sweeney and Soutar, 2001).
- **Nomological validity** refers to the extent of which likelihood from a theoretical framework are established (Venkatraman and Grant, 1986). In this study, this is measured by inter-item correlations and regressions by following Fornell and Larcker, (1981) who acclaim a minimum composite reliability of .60.

4.4 Thematic specifications in entrepreneurship research

In Low and Macmillan's (1988) initial reflection of the status, contributions and shortcomings of the study of entrepreneurship, the article discussed the domain's lack of clarity, unity and methodological ambiguity. This article argued that an organising scope for clearly illustrating the structured course of actions was lacking and to counterbalance those limitations, a research design framework consisting of six dimensions that shape and formulate entrepreneurship research was proposed. This was re-introduced by Davidsson *et al* (2001) to accommodate elements that represent a coherent and structured course of actions when addressing theoretically – driven research questions, to posit causal relationships. This thesis embraces those views and presents how the study fits in these six dimensions, in accordance with scholar's suggestions.

4.4.1. Purpose

This thesis defines ‘Entrepreneurship’ as the creation of new economic activity (Davidsson, Wiklund and Delmar, 2006). This view of entrepreneurship is in full line with Low and MacMillan's (1988) assertion who argued that entrepreneurship should be focused on how firms develop and essentially create economic activities, a purpose that corroborates firm growth under these premises. Davidsson *et al.* (2001) clearly illustrated that there is no general consensus regarding what constitutes the scope of the entrepreneurship field. This thesis contributes to better understand the manifestations of entrepreneurship by proposing a conceptual framework that interchangeably examines the relationships between entrepreneurship and firm growth and explicitly determines the impact of internal firm characteristics in this relationship.

4.4.2 Perspectives

Chapter 3 exhaustively elaborated the conceptual layers associated with this thesis, stressing that this research is primarily concerned with examination of indirect effects of *dynamic capabilities* on the *entrepreneurial strategy making process* -SME growth nexus. To develop the conceptual framework for this thesis, an integration of the resource-based view (RBV) of the firm (Aldrich, 2007) and strategic choice perspectives (Child, 1972) has been introduced and thoroughly discussed. In the context of the resource based view (RBV), the theoretical foundations provided by (Barney, 2001; Barney and Arikan, 2001; Barnard, 1938; Selznick, 1957) and structural integrity theme researched by (Barney and Mackey, 2005) enable rich prescriptions that do indeed counterpart the complexities and inconsistencies arising from the nature of the dependent variable (name the dependent variable). The RBV theory enabled synthesis of theories drawing from marketing, strategy and the organisation under the prism of SMEs’ *dynamic capabilities*. On the other hand, the *entrepreneurial strategy making process* has been documented in entrepreneurship studies as a source, stimulating performance enhancements. Low and MacMillan (1988) stressed that embracing theory-driven assumptions and utilising additional theoretical perspectives in the study of entrepreneurship is beneficial for its development as an area of scholarly attention. Davidsson *et al.* (2001) also stressed that there is a shift in examining characteristics of SMEs and their owners in favour of behaviours associated with emergence. This is where this study is navigated with the last part of empirical examination representing an integration of the above perspectives under a configurational framework (Short *et al.*,

2008). This study's definition of entrepreneurship is crucial for corroborating the above discussed theoretical perspectives into a meaningful gestalt of organisational thought

4.4.3. Focus

Low and MacMillan (1988) argued that the vast proportions of studies in entrepreneurship adopted a personality or cultural determinants focus. As research in the entrepreneurial personality remained futile for over a course of nearly thirty years (please mention the years e.g. 1980-2010), scholars suggested that focus should be directed towards the study of entrepreneurial processes within the social contextual boundaries. This emphasis is also highlighted from Davidsson *et al* (2001) who argued in favour of a refocus towards parallel processes of both broadening the field of inquiry and narrowing down. Despite its ambiguity, this view highlights such asymmetries associated with the study of the phenomenon yet it also points towards the need for precise empirical prescriptions and this study corresponds to meet these requirements by presenting both a systemic analysis and precise moderation and interaction analyses. Scholars also suggested that a key focus of entrepreneurship research should be its associations with performance outcomes and by incorporating SME growth as a nonfinancial performance metric this study addresses this call.

4.4.4. Level of analysis

The last proposed dimension of entrepreneurship research from Low and MacMillan (1988) is related to levels of analysis. Levels of analysis has been identified as an inconsistent source of confusion in examining entrepreneurship and this study argues that *"the activities of entrepreneurs are not only based on the characteristics of the entrepreneurs themselves but on the influences of organisational, environmental and firm processes as well"* (Low and MacMillan, 1988:6). Therefore, firm-level analyses were embraced to avoid some of the tautologies of previous research and keep the unit of analysis reasonably comparable.

4.5 Approaches / Techniques for deriving empirical measures of EO

Within entrepreneurship literature, empirical measures have been developed on the basis of three measurement techniques - namely managerial perceptions, resource allocations and firm behaviour. This part builds and discusses the views formerly expressed by Lyon, Lumpkin and Dess (2000) in one of the few conceptual analyses of advantages and pitfalls of each chosen

approach to measurement. This study embraces a perceptual, survey-based measurement technique.

- **Senior management/founder perceptions:** This measurement technique is widely used in empirical management research for a various reasons. It portrays perceptions of firm-level strategy-making and decision-making processes which are common in entrepreneurship research (Wiklund and Shepherd, 2005, Naman and Slevin, 1993). Such a technique has meaningful strengths as multiple-item survey-type measurements tend to address the underlying construct directly and accounts for high degrees of content validity. Utilising on statistical and computational power, it also gives the opportunity to capitalise on the strengths of this approach and develop deeper understanding and inference. On the other side, self-reported measures represent subjective interpretations of the construct in question.

- **Resource Allocations:** It is an approach derived from strategy research where entrepreneurial orientation is measured by examining how a firm allocates its resources as an indicator of strategy formulation within the firms (e.g. Miller and Friesen, 1978). With this method, research essentially is directed towards identifying a dimension's proxies and measures of those sources quite accurately. This measurement technique can also be reinforced and triangulated from archival data presenting high reliabilities. However, an essential disadvantage stems from the fact that such a measurement approach may suffer from issues concerned with construct validity (Lyon, Lumpkin and Dess, 2000). Moreover, when inquiring on the entrepreneurial intentions of SMEs, both archival and allocation data may not be accessible.

- **Firm Behaviour:** This measure emerged from the work of Covin and Slevin (1991) who initially presented a broad model for conceptualising entrepreneurship as firm behaviour and argued that it reflects management scholars' focus to entrepreneurial processes. In discussing this, Lyon, Lumpkin and Dess (2000) demonstrated the utility of the approach. Drawing on the competitive dynamics literature (Jauch, Osborn and Martin, 1980), they suggested measurement on the number of innovative, proactive and/or risk-taking actions utilising published sources of information. There are issues making such an approach susceptible. Interpretations of strategic actions in single - industry samples can be viable (Miller and Chen, 1994) but when adopting a broader sampling frame, identifying entrepreneurial processes through secondary data can be advantageous, if not impossible (Lyon, Lumpkin and Dess, 2000). In sum, it is commonly accepted that each approach offers merit depending the study's

objectives and propositions. There is no ideal measurement technique and with regards to the vast majority of entrepreneurship strategic posture research, perceptual measures has been the norm, taking into account both the robustness of the Miller (1983) instrument.

4.6 Nature of Indirect effects – what makes for good /bad moderator

The underlying question regarding the nature of indirect effects reflects *how* the creation and sustenance of competitive advantage is dependent on external environment influences as well as firm level and resource bases (Bruderl, Preisendorfer and Ziegler, 1992). It is argued that entrepreneurship is a growth-stimulating process reflecting initiatives related to both the macro environment and task-environment of the firm (Zeithaml and Zeithaml, 1984). As the 'variance decomposition literature' (Short *et al.*, 2009) informs that external environmental attributes as well as firm level effects account for a substantial amount of explained performance variance (Misangyi *et al.*, 2006), whether a moderated effect or a mediated effect is feasible to be identified, is an empirical question that this study aims to assess.

This thesis suggests that for SMEs, the influence of environmental dynamism on research model consisting of understanding the direct and indirect relationship between entrepreneurial orientation, dynamic capabilities and competitive advantage could depict variability in the form of moderating effects. The literature gap addressed here is well documented in recent, meta-analytic terms;

"Moderators have not yet been sufficiently emphasized in this literature ... Across studies, we found considerable variation in the magnitude of the correlation between EO and performance and this variance could not be explained by sampling error alone. This indicates that other variables moderate the strength of the EO-performance association."

(Rauch *et al.*, 2009: 778,779)

Rauch *et al* (2009:767) informed that there is no clear conceptual consensus regarding what constitutes suitable moderators (Covin and Slevin, 1988; Lumpkin and Dess, 2001) and research discussing moderating effects on the EO-performance relationship has been surprisingly limited and confined only on contextual and environmental moderation. The above illustrated gap appears puzzling given the popularization of EO as a scholarly theme. Moderation reflects a well-defined and methodologically sound framework in inferential statistics, drawing from basic and applied psychology research (Baron and Kenny, 1986; MacKinnon *et.al*, 2002; Shrout and Bolger, 2002). In particular, moderation analysis is

primarily concerned with examining how the strength of the relationship between *entrepreneurial orientation* (predictor) and competitive advantage (outcome) is influenced when a third variable is introduced in the research setting (MacKinnon *et. al.*, 2000; Endwards and Lambert, 2007).

As there are conceptual accounts supporting that the relationship between predictor and outcome may be moderated, such influences essentially represent the situational conditions that alter the effects of the latter in pseudo-isolation (Tang *et. al.*, 2009:315) and this is interpreted as the condition where the research model is exhaustively focused upon the relationship between the three variables only. This enables establishment of a form of causal relationship between the three (Bollen, 1989) and subsequent interpretive prescriptions can be drawn.

4.7. Ethical framework

Within an idealistic line of reasoning, social science research is concerned with the examination of phenomena, behavioural and process characteristics. Such ideas are then put under the scrutiny of a conceptual or empirical lens to reveal findings that might have particular implications for a broader audience and stakeholder accounts. These interactions between the social investigators, respondents and the broader audience inevitably raise questions which principally are ethical in nature. Oliver (2003) stresses the need to clearly articulate and to address the terminology associated with individuals that provide data since despite seeming unimportant this inherently highlights the role of such people in the research process. The author (Oliver 2003) then proposes the use of the words "*subject*", to stress the fact that something is being done *to* them and the word "*participant*" for implying that something's being carried out in conjunction with them. This thesis addresses individuals utilising the latter term. Within the broader domain of entrepreneurship research, it appears that there is a growing body of attention addressing the ethics of entrepreneurship (Bucar, Glas and Hisrich, 2003; Brenkert, 2009), the ethics of entrepreneurs themselves (Hannafey, 2003). And, a particular interest in the functions and differentiating characteristics of social entrepreneurship compared to commercial enterprises (Austing, Stevenson and Skillern, 2006). This can be described as an effort to achieve legitimacy of social entrepreneurship research with some advantageously arguing on a pre-paradigmatic status of the field of inquiry (Nicholls, 2010). Moreover, an emergence of such a research domain could indicate the development of a general

consensus towards addressing the ethical dimensions of research planning and implementation. Therefore, it is necessary to discuss and introduce an ethical framework that embraces this study in principle and in praxis.

4.7.1. Scope of ethical concern in research areas

Regarding the research process itself, a variety of situations may trigger ethical issues. Oliver (2003:23) mentions that it is fundamental for respondents to completely understand the purpose and objectives of the search efforts and the vast majority of ethical research guidelines stress the importance of four interrelated subjects, namely informed and voluntary consent, anonymity and confidentiality. In the United Kingdom, the lack of national coordination for social science research ethics, as social sciences represent broad and varied strands of research, has been addressed from the Economic and Social Research Council (ESRC) with the introduction of a research ethics framework, in the form of six key principles, that include aspects related to informed, voluntary consent, anonymity and confidentiality (ESRC, 2010: 1)

- *Research should be designed, reviewed and undertaken to ensure integrity and quality*
- *Research staff and subjects must be informed fully about the purpose, methods and intended possible uses of the research, what their participation in the research entails and what risks, if any, are involved*
- *The confidentiality of information supplied by research subjects and the anonymity of respondents must be respected*
- *Research participants must participate in a voluntary way, free from any coercion*
- *Harm to research participants must be avoided*
- *The independence of research must be clear, and any conflicts of interest or partiality must be explicit*

4.7.2. Informed consent

According to the works of Faden, Beauchamp and King (1986), the history of informed consent is multidisciplinary in nature, stressing the importance of 'morality' as the underlying principle guiding the philosophical and professional code of conduct. This is a central part of social science research ethics. Authors also mention the nature of reasoning by principles which should guide scientific inquiry. According to Israel and Hay (2006:61), informed consent is associated with two interrelated activities that participants should comprehend and to agree voluntarily to the nature of the research

project and the role of participants in this. Informed consent indicates that respondents should be informed about the nature of the research project. This facilitates informed decisions for respondents and it is the researcher's duty to integrate all necessary information required to enhance the validity of the study's claims. However, there are indeed limits of the information that respondents should anticipate as this may give rise to further inconsistencies in the way respondents answer to the study's questions, generating inadequacy in data generation (Oliver, 2003:39).

4.7.3. Voluntary consent

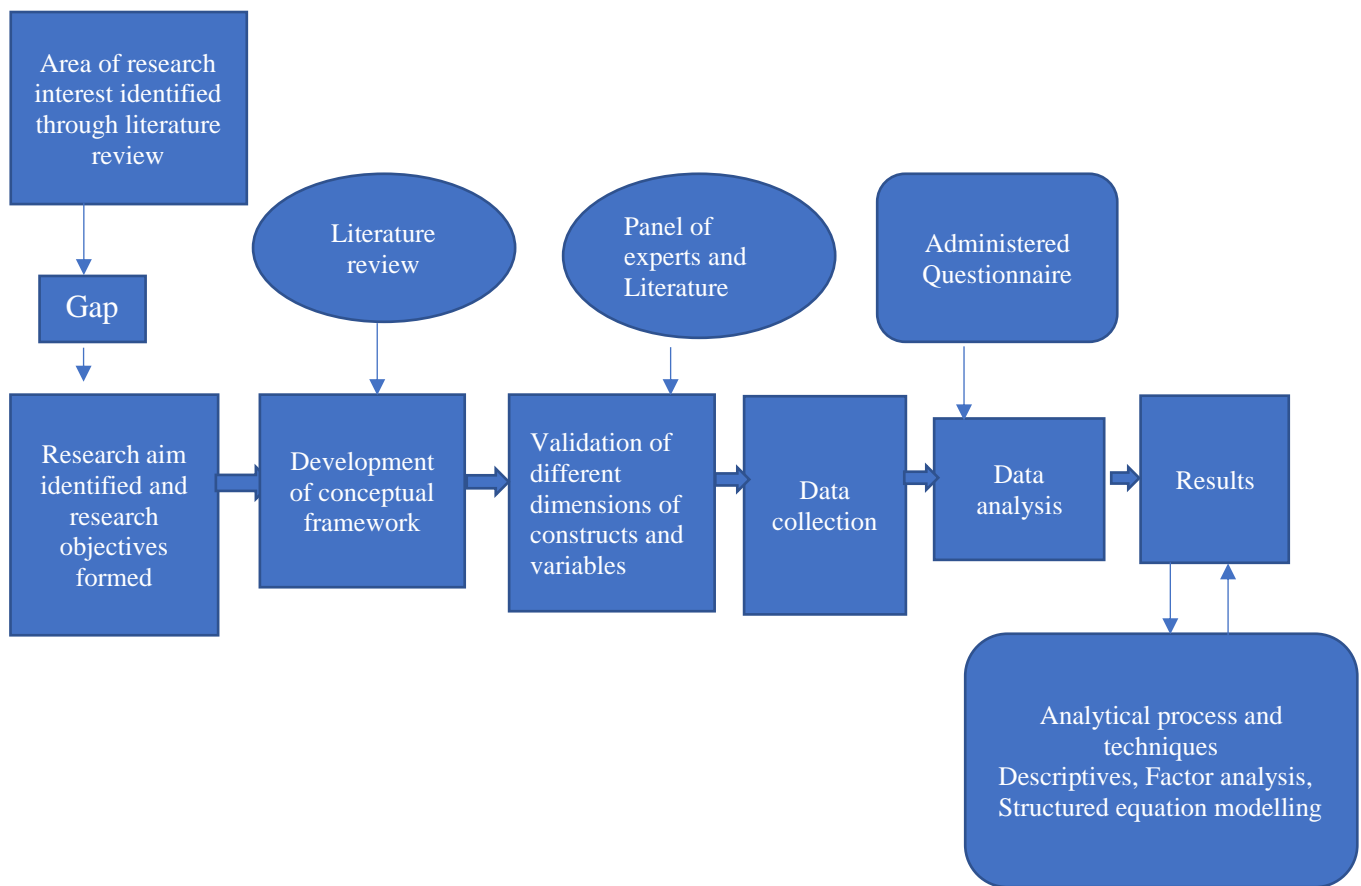
This notion stresses the need for respondent's voluntary participation in the research project. Israel and Hay (2006) argue that depending on the country that research is being carried out there are specific ethical guidelines directing social inquiries to obtain the voluntary nature of consent. These authors also inform that history regarding voluntary consent goes back to the Nuremberg Code (1947) and the Declaration of Helsinki (1964) which helped to set up a policy lens in research ethics.

4.7.4. Anonymity and confidentiality

The two final aspects, anonymity and confidentiality, discussed in this chapter's ethical partition unarguably represent the cornerstone of research ethics for the most profound and delicate piece of information that the social investigators have to treat with utmost respect and care. A fundamental advantage associated with anonymity is the capacity to ensure objectivity throughout the research process (Oliver, 2003:78), given the fact that the social investigators and respondents are affected by the context the research takes place. The notion of confidentiality is rooted into the informed consent process (Israel and Hay, 2006) with the issue itself representing another considerable challenge for research. Oliver (2003:83) proposes that instead simply stating that data confidentiality is secured, the investigators should understand that these statements represent a promise and be treated with all the seriousness implied from a moral point of view. As the main source of data for the purposes of this study was collected via the use of pen-and-paper questionnaires, this minimised direct interaction between the respondents and investigator. Summarising the ethical framework of this research to tackle issues associated with informed and voluntary consents as well as anonymity and confidentiality, this thesis embraced the ethical research guidelines from the Economic

and Social Research Council in the United Kingdom and all necessary information has been clearly stated in the questionnaire's cover letter.

Figure 4.4 Research Process



4.8 Research Design

Yin (1989) defined research design as "the logical sequence that connects the empirical data to study's initial research questions and, ultimately, to its conclusions. In general terms, a research design is an action plan from the initial research questions to conclusions about those questions. It also includes the schema of various processes involved herein. Research design is the underlying core of the entire research activity. It outlines the overall architecture and alignment of the study undertaken and offers logical proof to infer and explicate causal relationship among variables which are part of

research framework (Nachimas and Nachimas, 1981, p75). An effective research design is essentially “*a complete blue print, formulated after rigorous study of the underlying research problem and which would direct, guide as well as control the full research project*” (Chisnall, 2001, p. 34). The objective of a research design is to obtain “*precision, logic-tightness and efficient use of resources*” (Oppenheim, 1992), and includes selection of research methodology, sampling and data collection techniques and rationale, data collection, analysis, interpretations and research conclusions (Wright and Crimp, 2000; Nachn-Lias and Nachmias, 1981). This partition of the methodology part introduces a non-experimental research design (Marczyk *et al.*, 2005: 162) that has been developed considering the philosophical and ethical frameworks to meet the study's overall purpose to examine the relationship between entrepreneurship, dynamic capabilities, and SME competitive advantage in dynamic business external environment. This thesis embraces the views of Snow and Thomas (1994) regarding the value of field research methods in theory development and the need to have a methodologically consistent yet innovative data gathering framework. This is important due to heterogeneity of the entrepreneurship phenomenon as well as the diversity of examined entities (firms). To do so, a survey regime, consisted of the development and use of questionnaires has been developed and executed over an intensive 6month period (June 2018 till December 2018).The logic for the utilisation of such a methodological regime was to develop an empirically comprehensive analytical path, as the review of previous studies in entrepreneurship revealed a considerable lack of methodological robustness (e.g. Chandler and Lyon, 2001) that is fundamental for grounding the study's conceptual accounts into rich empirical claims. It is important to mention though, that the decision to rely on a non-experimental research design limits the breadth and depth of this study to sampling restrictions and the ambition is to replicate this study's findings with a subsequent effort on embracing experimental principles, echoing the call for research addressing cause and effect relationships (e.g. Rauch *et al.*, 2009), avoiding a series of methodological myths and fallacies that kept previous research in captivity.

4.8.1 Research Design considerations based on objectives and aims

Considering the aims and objectives of this research, four approaches are available-of a study: 1. Descriptive, 2. Exploratory, 3. Predictive and 4. Explanatory (Hussey and Hussey, 1997). The approaches try to find hypothesis, ideas, patterns, ideas to get acquaintance with the theme and subject. The researcher could conduct an exploratory

study through focus groups, using literature review search, or conducting interviews with relevant stakeholders. With descriptive research, the data is collected either from the testing of hypotheses or from gathering information on the characteristics of a particular issue. This type of research is conducted through questionnaires, interviews or observations. For the explanatory research, the researcher explains the reasons and the ways of phenomenon happening. Through this type of research, the researcher tries to measure the existing interrelationships among the various variables and items. The predictive research undertakes an attempts to give a credible justification of what is what is going on in a particular context, thus empowering the scholar to predict the probability of comparable circumstance arising in future. For this thesis, the exploratory and descriptive lines are engaged. Thus, a clear picture of the phenomena is depicted upon prior to the data collection. The emphasis here when studying Entrepreneurial orientation and dynamic capability processes is to explain the causal relationships that exist between our variables.

4.8.2 Research Design approach - Time Frame considerations

Choosing a time frame is one of the key design considerations in research design approaches. The researcher has to choose between a longitudinal and cross-sectional time frame. Under positivist custom, the cross-sectional approach for research design is employed where the sample data is collected by researcher by using questionnaires and survey tools at one specific time point. Under the longitudinal design approach, the observations are reiterated from time to time and spread over quite a few years. This thesis employs the use of Cross-sectional data.

4.8.3 Sources of Data

Data gathering primarily consists of two fundamental sources: primary and secondary sources. Primary data sources refer to data collected particularly for the applicable task while secondary data sources refer to data which is collected in the past with the purpose other than the aims of study. Primary data is usually collected from observations, surveys and experiments whereas secondary data is collected from online or offline published sources like documents, papers, books, company annual reports, government publications, etc. Secondary data sources facilitate the research scholar to save money and time its key benefit is that that the data could be appraised for appropriateness prior to its actual utility (Stewart & Kamins, 1993).

Conversely, secondary data usually cannot offer the information that the researcher needs to address the research questions (Hox, J. J., & Boeije, H. R. 2005). The advantage of primary data is that it can lead to greater confidence in the outcomes of the research (Eastern *et al.*, 2012). For the purpose of this thesis, majorly primary data was collected since there is less accessible data about Dynamic capabilities and entrepreneurial orientation in SME.

4.8.4 Approaches for Data collection

Mainly two most popular techniques for data gathering are quantitative and qualitative methods. The qualitative data involves interviews, observation and diary methods. Qualitative research excels at generating detailed information. The qualitative research is “*more subjective in nature and involves examining and reflecting on perceptions in order to gain an understanding of social and human activities*” (Hussey & Hussey, 1997:12). Quantitative data is about counting and offering findings as numbers or percentages.

According to Albright *et al.*, 2006, Quantitative research is mostly “*used to incorporate the use of systematic and sophisticated procedures to test, prove and verify hypotheses*”. The data is raw and seldom pre-categorised and it is the responsibility of the researcher to organise all of that raw details, mainly with the assistance of statistical techniques and statistical software packages like SPSS. This kind of data can be collected through interviews, questionnaires, tests/measures and observations. A quantitative research design imparts scope of flexibility in the handling of data, in terms of comparative analyses, statistical analyses, and repeatability of data collection in order to verify reliability. There have argumentative discussions related to differences between quantitative and qualitative methods than practically any other methodological issue discussed in social research. The ongoing argument about the appropriate methodology in social research can now look back on a history of several decades whereby many research scholars have reinforced the incompatibility of this two diverse epistemological strands underpinning these research trajectories. Notwithstanding the established argument, there have been frequent studies that balance and incorporate quantitative and qualitative methods, and in many cases such combination has resulted in revealing outcomes. There is extensive volume of writing regarding the synergy of quantitative and qualitative methods extending from general methodological approaches to pragmatic guidelines for blending

models and methods in a unified research scheme. For this thesis, the data was collected by employing quantitative research approach as it permits flexibility in the treatment of data in conducting comparative and statistical analysis. Quantitative data was collected using questionnaires mainly because it was appeared to be the most feasible method for approaching a sample of SME owners, elite executives and top managers. It was practical to collect the data by using questionnaires as large amount of standardized data can be collected from a relatively large sample of SME owners in a relatively short period of time and in relatively cost effective way. Data can be analysed more scientifically and objectively and the results can be quickly and easily quantified using statistical packages. According to the view of positivists , quantitative data can be used for creation of new theories and to test existing hypothesis. There are limitations as well for e.g. emotions, behaviour feelings are not being recorded, there is limited amount of information narrowing the scope of research only to certain type of questions, the truthfulness of respondent in answering the question is difficult to judge(Carter, MP and Williamson, D 1996; Ghauri, P., Grønhaug, K., & Strange, R., 2020). However considering the research objective and the context of research the method, questionnaire as a data collection methodology was justified as the advantages outweighed the disadvantages (Hair, J. F. 2015, K.Popper,2015)

The process of quantitative research for this thesis consisted of following five steps adopted from Swanson & Holton (2005) as per Figure 4.5 below.

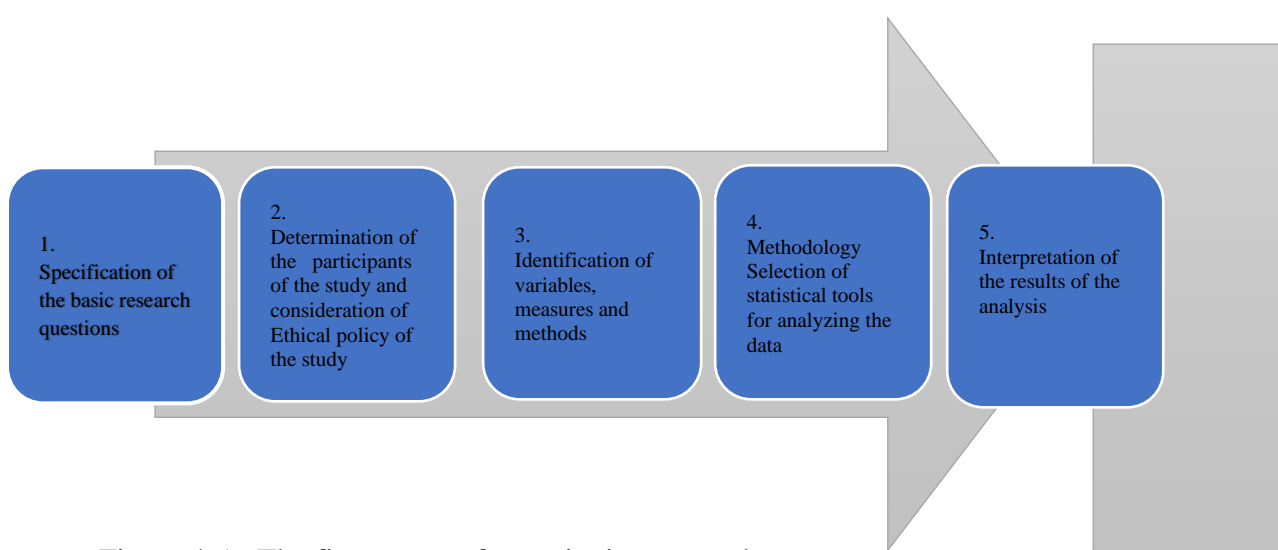


Figure 4.5-. The five stages of quantitative research

Source: adopted from Swanson and Holton (2005)

4.8.4.1 Subjective versus objective data collection

Scholars face dilemma when it comes to subjective or objective approach to data collection. In case of objective data collection, the researchers collect numerical nature of information. This means that the information has a definite mathematical sense. The nature of objective data is quantitative. The numbers facilitate and guide the analysis of the ideas and concepts. Subjective data is grounded on the perceptions of respondents with regard to particular constructs. It presents interpretations of reality by concentrating on respondent's views, feelings and thoughts. In the literature review chapter, details like subjective and objective measures used in the measurement of firm performance/competitive advantage are mentioned. Subjective measures have been employed in the strategic management domain by probing main respondents about their perception on particular measures of firm performance/competitive advantage (Market share, Return on Market Share, Return on Investments, and Return on Assets etc).

Objective data for firm performance/competitive advantage can be obtained from annual reports of sample companies and other reports/publications by private analysts in which numerical data or information exists for various financial measures. This research intends to examine the perceptions of SME owners and top management. All the measurements employed are perceptual and subjective through the use of a questionnaire.

4.9. Survey Design

This section in the chapter discusses the study's survey design demonstrating an overview of process and procedures that have been adopted and details regarding the study's research instrument – the questionnaire - describing the analytical process that included development, assessment, refinement and pilot-testing carried on prior to questionnaire distribution. Campbell and Katona (1953) has provided a useful overview of survey procedures stressing among others that for achieving methodological robustness the following parts have to be strictly assessed.

4.9.1 The questionnaire

For developing the key research instrument a series of decisions have to be made regarding the survey methods that need to be employed (interviewing, mail distribution) in conjunction with the appropriateness of the utilised measures. Regarding the questionnaire a fundamental step is to determine the content and structure (ordering of

questions, use of Likert scales) that form the survey measure. The attention to these details is illustrated throughout the rest of this chapter and the study's questionnaire can be found in Appendix -B

4.9.2 Addressing survey errors

There are following four errors generally encountered in the research methodology of data collection through surveys. The following part details the errors and their management/avoidance.

- **Sampling error:** This error is considered as the extent to which a statistic of a survey is based on a sample or subset of that population and it is not able to reflect the true value. Sampling may not be able to precisely explain the characteristics of a total population. Therefore, the variation between the traits of population and sample values is considered as *sampling error*. Sampling error is “the result of attempting to survey only some, and not all, of the units in the survey population” (Dillman, 2007). To avoid this, we have used the most comprehensive database available which encompasses the true value of the sample under study.

- **Coverage error** results in case of where the data from which the sample details are picked up does not contain all features of the population (Dillman et al., 2014). The population sample does not sufficiently represent the underlying population which is measured. For this thesis, we tried to connect to broad spectrum of SME owners /senior of medium sized companies in Gujarat which are provides in our database. We ensured that even though we are using random sampling the data chosen could cover the characteristics of the total sample.

- **Measurement error** appears in situations where the response of a participant is inaccurate. These errors arise primarily from imperfections in the working of questions/statements/wordings and design of questionnaire (Dillman, 2007). As explained in detail above, we have taken each step to design a user friendly and high-quality questionnaire with reliable measurement items.

- **Non-Response Error:** It is a specific type of error found mainly in online/mail/telephone surveys. It appears when the chosen individuals contained in the

sample do not respond and/or possess dissimilar characteristics from those who respond to the survey (Dillman, 2007). As in self-administered surveys the researcher remains present while the questionnaire is administered this error is minimal.

4.9.3. Scales

The different scales of measurement are nominal, ordinal, interval, ordinal, ratio and nominal:

- **Nominal scales make** use of numbers, labels, and symbols, for classifying a characteristic, person or object which is by nature categorical. In literature related to small and medium enterprises (SMEs), demographic constructs related to the nature of those firms which are mainly measured in nominal scales are that of firm size (number of employees), firm age (years of existence of operations) and firm type (manufacturing, trading, sectoral classifications etc.). A convenient way to differentiate a nominal scale is to remind that there is no true zero (Jackson, 2014). As an example, we cannot claim that someone does not have ethnicity.
- **Ordinal/ranking scales possess** hierarchy in a continuum however the differences among successive values are not similar. According to Jackson, 2014, the scales do not have equality in size of units and cannot be absolute zero. They can be used generally as a benchmark to demonstrate that one value is higher than the other. For example scale related hardness or minerals, quality of leather, intelligence of a teacher is an ordinal scale. A popular scale that has been implemented by many researcher scholars was that initially developed in 1932 by Likert who was able to build a scale on which the respondents have the facility to choose and exercise his selection from a difference of points. These scales are used as a prevalent tool which researcher scholars used in order to measure attitudes such as opinions and preferences. (Gob et al, 2007). Multiple-item measures such as Likert scale produce ordinal variables (Gob et al 2007, Bryman and Bell, 2003). The respondent is probed to express their attitude towards a particular claim of statement, essentially by selecting options on a five or seven point Likert scale. As an instance , in a 5-grade Likert scale the respondents could be requested to express their concurrence with respect to a value claim or statement and these grades might be inferred as (1)- strongly disagree, (2)-

disagree ,(3)- neutral, (4)- neutral , (5)- strongly agree. According to Dawes (2008) both the five and seven pointed scales generate similar mean score in case of their rescaling.

- Interval scale possess similar characteristics as that of ordinal and nominal scale. However it deals with things which can be quantitative in the everyday world sense. (Stevens, 1946). All statistical scales are interval in nature. They provide additional information concerning the degree of variation among single data items representing a data set. A quite generic applicability of the interval scales is the temperature measurement (Fahrenheit/ Celsius). Interval scales does have not a true zero point and therefore they use a convenient zero point (0 degrees Celsius).
- A ratio scale has similar characteristics as of interval scales. They have an additional true zero point as their origin. They are generally used in physics. They signify highest precision levels. The most commonly used example is measurement of weight, height, time. For this research a five –point Likert scale has been employed for all the fundamental constructs of the research model. Further, ordinal and nominal, scales have also been employed to collect data relating to demographics and some firm level data related to SMEs.

It is believed that length of the questionnaire is an important aspect in its successful implementation. In this research the length of questionnaire is kept as minimal as possible. (Dillman *et al.*, 2014; Dillman 2007). An effort was put by repeatedly and in each case by clearly informing the respondents that the response time in answering the questionnaire would not be longer than 20 minutes approximately. Hence it was intended to save the valuable time of the busy SME owners/senior managers.

4.9.4. Types of Questions

The questionnaire largely consisted of closed-ended questions with well-ordered answered choices in (5) five –pointed Likert scales. These close-ended questions permits the respondent to select from a choice of probable responses (Dillman *et al.*, 2009). In order to take details regarding the profile of the respondents, their demographic

characteristics were collected in the template of multiple choice, question /answer or numerical details. The instrument also included also one open-ended question where the participants were offered an option to write comments and provide vital and relevant information about their firm and the business environment. The statements as well as questions were kept precise so that respondents can grasp the details in questionnaire easily (Holbrook et al., 2006).

4.10. Questionnaire Survey

Questionnaire surveys represent one of the most popular strategies for primary data collection within the management and social sciences realm (Baruch, 1999). Fink (1995) describes surveys as a Systematic approach in collecting necessary information to describe, compare or explain knowledge, Attitudes and behaviour. Sapsford (1999) indicated that surveys represent a 'precise', quantifiable map with standardisation at the core of this effort. Sample size understandably affects all results, with at least 200 usable responses (Hair *et ai.*, 1998) representing the rule of thumb. However, recent advances in predictive statistics enable robust empirical claims with fewer responses (Vinzi *et al.* 2010; Barroso *et al.*, 2010; Tenenhaus *et al.*, 2005) when analytical and path modelling regimes are based on component-based estimation methods (Tenenhaus, 2008). The main limitation associated with questionnaire surveys is low response rates - often called 'survey fatigues' (Jespersen, 2005). Yet, the general consensus within the empirical realm is that surveys represent the most efficient means for collecting empirical data (Newby, Watson and Woodliff, 2003). In contemporary entrepreneurship research surveys are highly rated. For instance, Chandler and Lyon's (2001) assessment of research design and construct measurement in entrepreneurship research, illustrated that from a population of 416 peer reviewed publications in a 10 year period, 70% of the publications were empirical in nature and 66% of the studies using primary data employed a paper survey questionnaire.

4.10.1 Questionnaire design

The above part described the context and survey design aspects that has been embraced from this study. The main source of primary data has been the study's questionnaire and this part discusses particulars regarding development, translation, refinement and distribution. Typically, questionnaire design is an integral aspect of the research process

requiring the selection of measures, the use of scales as well as aspects prevailing distribution of the research instrument itself such as pilot study and necessary final amendments on the questionnaire. Emphasis is also put on aspects regarding the cover letter and what kind of information it provides to participants. This is particularly important as it is directly linked with the ethical framework, informed and voluntary consents discussed above, as well as common and single respondent biases. Each of the above aspects are discussed in pristine detail in this part, attempting to make meaningful justifications of the choices. As an overview, it is important to mention that this study utilised a series of measures appearing in the literature of management studies - the constructs themselves have been discussed in the literature assessment of this study in terms of their conceptual bases. The questionnaires used were in English and there was no need to translate it to local language as it was ensured that respondents were comfortable in English.

4.10.2 Initial development, translation and cover letter

The questionnaire has been developed with valuable help from the study's supervisory panel. After identifying the most suitable constructs and their indicators, a series of sequences attempted to develop the format and structure in an effort to represent a coherent and usable research instrument. In terms of size the questionnaire spanned across five pages. The research instrument has been distributed to a panel consisted from management academics, industry experts and entrepreneurs which have been kindly requested to assess the interpretability and ease of use of its measures. Using their comments and valuable critique, a series of amendments have been introduced. Attention then shifted towards developing the questionnaire's cover letter. This one page serves as the only chance to motivate respondents to complete the questionnaire, has to be short yet punctual in terms of the provided information, clearly articulate the study's purpose and the importance of their response and a direct link with the ethical framework assuring confidentiality and anonymity. The cover letter clearly indicated that completion time should be approximately 35 minutes. Full contact details and positions of the research team have also been included (De Vaus, 2002).

4.10.3 Measures

Survey research is principally associated with quantitative and positivistic assumptions (De Vaus, 2002), where knowledge is accumulated by the collection and analysis of

systematic data from questionnaires, allowing instinctive comparisons between cases. Development of measures is a process typically involving theoretical expansion of their premises with concepts being 'translated' into indicators and there is well documented classical theory underpinning this effort (e.g. Lazarsfeld and Rosenberg, 1955; Lazarsfeld, Pasenella and Rosenberg, 1972). Construct development is a problematic aspect of management research as a whole (Boyd *et al.*, 2005). The main methodological shortcoming that permits development of original measures at this point is validation procedures (Chandler and Lyon, 2001). Reliability and validity are two outstanding methodological issues, with reliability indicating error-free measurement and validity referring the measures meaningfulness (Hair *et al.*, 1998). Both aspects are well documented in the literature (Carmines and Zeller, 1979) and require careful statistical treatment (Zeller and Carmines, 1980; Bateson, 1984). *Substantive validity* is established by testing for convergent and discriminant validity of the constructs, typically requiring factor analyses (Chandler and Lyon, 2001). *Structural validity* and *external validity* are assessed principally by reviewing the literature, as on the one hand structural validity requires good 'fit' between theoretical construction and analytical techniques (Loevinger, 1957) and external validity implies theoretical relationship between measures and their theoretical Underpinnings (Messick, 1995). Chandler and Lyon (2001: 107) argued that as entrepreneurship research appears fragmented, utilisation of already published scales helps establishment of validity. This study echoes these views and measures and their sources are presented on table 4.1 below.

Table 4.1 Measures -scale items and their sources Scale Items

Constructs	Measures	Scale items	Source of scale items
A. ENTERPRNERUIAL ORIENTATION	A1. Proactiveness	1.We excel at identifying opportunities 2.We always try to take the initiative in every situation (e.g., against competitors, in projects and when working with others) 3.We initiate actions to which competitors respond	Hughes and Morgan 2007 Miller/Covin and Slevin, 1989 Lisboa et.al, 2011, Covin and Slevin 1989

		A2.	Risk-Taking	<p>1. People in our business are encouraged to take calculated risks with new ideas</p> <p>2. Our business emphasizes both exploration and experimentation for opportunities</p> <p>3. The term 'risk taker' is considered a positive attribute for people in our business</p>	<p>Hughes and Morgan 2007</p> <p>Hughes and Morgan, 2007</p> <p>Huges and Morgan 2007</p>
		A3.	Innovativeness	<p>1. Our business is creative in its methods of operation</p> <p>2. Our business is often the first to introduce new products, services, techniques and technologies</p> <p>3. We actively introduce improvements and innovations in our business</p>	<p>Hughes and Morgan 2007.</p> <p>Lisboa et.al, 2011, Green et.al 2007</p> <p>Hughes and Morgan, 2007</p>
<hr/>					
B.	DYNAMIC	B1.	Strategic Sense making ability	<p>In my organization</p> <p>....</p> <p>1. As a company we know how to access new information.</p> <p>2. People participate in professional association activities</p> <p>3. We observe best practices in our sector</p> <p>4. We can perceive environmental change before competitors</p>	<p>Alvaro Lopez-Cabrales 2017</p> <p>Wilden et.al, 2013</p> <p>Wilden et.al, 2013</p> <p>Li and Wu 2012</p>
CAPABILITIES					

	5. We have systemic search routines by established processes to identify target market segments, changing customer needs and customer innovation	Winder and Gudergan (2015)
	6. We have good observation and judgement ability	Li and Wu 2012
	7. We can feel major opportunities and threats	Li and Wu 2012
B2. Responsiveness and strategic decision making	1. We are effective in utilizing knowledge into new products	Alvaro Lopez-Cabrales 2017
	2. We can make timely decisions to deal with strategic problems.	Li and Wu 2012
	3. We respond to defects pointed out by employees and customer feedback	Wilden et.al, 2013
	4. We recognize what new information can be utilized in our company.	Alvaro Lopez-Cabrales 2017
B3. Reconfiguring ability	1. In last five years we have implemented new kinds of management methods.	Wilden et.al, 2013
	2. By defining clear responsibilities, we successfully implement plans for changes in our company.	Barbara et.al, 2017
	3. In the last five years our organization has substantially	Wilden et.al, 2013

	renewed its business processes	
	4. In the last five years, the firm has implemented new or substantially changed ways of achieving our targets and objectives.	Wilden et.al, 2013
	5. Decisions on planned changes are pursued consistently in our company	Barbara et.al, 2017
ENVIRONMENTAL DYNAMISM	1. The products/service in our industry updates quickly.	Dess&Beard,1984; Tan&Litschert, 1994;Wu, 2010
	2. The actions of competitors are difficult to predict.	Dess&Beard,1984 ;Tan&Litschert, 1994;Wu, 2010
	3. The technology in our industry progresses quickly.	Dess&Beard, 1984;Tan& Litschert, 1994;Wu, 2010
	4. To predict change of customer needs is difficult.	Dess&Beard, 1984;Tan & Litschert, 1994;Wu, 2010
COMPETITIVE ADVANTAGE	1.The market share of the firm is above average	Chang 2011, Li and Liu, 2012
	2.The growth of market share is above average	Chang 2011, Li and Liu, 2012
	3.The overall competitive position of firm is very high	Chang 2011, Li and Liu, 2012
	4.The growth in return on investment is above average	Chang 2011, Li and Liu, 2012

Demographics and Control Variables

Reporting of demographic details is a routine but vital task for any questionnaire based research. It the demographic profile provides an overview of sample characteristics and is helpful in drawing certain inferences. In this research the demographic details are

collected in two categories- respondent details; which includes details about the respondent gender, age, work experience, educational qualifications and relationship with the firm. i.e. whether they are answering the questionnaire in the capacity of owner/founder, their family members or a professional working as an executive or in senior management capacity. The second category is firm related details. While reviewing the literature of organisational studies, the vast majority of identified empirical research of the relationships under scrutiny utilised two control variables, namely firm size and age respectively (Rauch *et al.*, 2009). It is understandable that SME growth may be influenced by size and age differentials, as smaller organisations exhibit more pressure in terms of competitive influences (Miller and Friesen, 1983) whereas it is generally accepted that organisations that are small, typically remain small throughout their venturing process (e.g. Davidsson, Wiklund and Delmar, 2006). Regarding size, this research echoes previous theory that supports these claims (e.g. Chandler and Hanks, 1994; Wiklund, 1999) and it is argued that these assertions should also affect the internal character that such firms develop. An extensive discussion regarding firm size has been demonstrated in chapter 4 of this thesis. Regarding age, two claims are supportive of the decision to include this variable as control. First, previous research informs that an *entrepreneurial strategy making process* is influenced by time of venturing activity (Covin, 1991; Wiklund, 1998) and this has been taken into consideration when designing the study's sampling strategy. Besides this, SME *dynamic capabilities* are constructs that require time for development (Eisenhardt and Martin, 1998), supporting the decision to control for SME age as the notion is that more mature SMEs would develop *dynamic capabilities* substantially, given their nature - change oriented - and their hierarchical structure - that inherently implies time as essential for development. Hence we have decided to take the firms with **minimum 5 years of venturing activities**. To determine firm age and firm size, respondents were kindly requested to provide their total number of full-time employees for the current year that the study was conducted. Firm age was assessed by asking respondents to provide the year that their firm's venturing process started. The two variables were then logged to create the study's controls.

Entrepreneurial orientation

Chapter 2 extensively discussed the study's conceptualisation of an entrepreneurial behaviour - stressing the unidimensional and multidimensional character of the phenomenon - manifested from the *entrepreneurial orientation* construct (Miller and

Friesen, 1982; Covin and Slevin, 1989; Wiklund and Shepherd, 2005; Covin *et al.*, 2006) and consisted from three reflective indicators namely innovativeness, risk-taking and pro-activeness. The construct embraces a semantic differential scale with Likert points extending from 1 -*strongly disagree* to 5 - *strongly agree*. In this research the original measure of Miller (1983) , Covin and Slevin , 1989, Green et al, 2006 ,Hughes and Morgan, 2007,Lisboa et al, 2006 has been utilised minimal modifications,

Dynamic capabilities

Chapter two introduced a unique conceptualisation of *dynamic capabilities*, stressing their change-oriented and environmentally stimulated character. They are classified into strategic sense making capability, timely decision-making capability and reconfiguring ability. Three constructs appearing in the literature of organisational studies have been embraced to serve the analytical purposes of this study. For all three *dynamic capabilities* scales used Likert points ranging from 1 - "*strongly disagree*" to 5 - "*strongly agree*". Scales have been adopted and developed from Alvaro Lopez- Cabrales (2017); Winder and Gudergan, (2015); Li and Wu (2012) and Wilden *et al.* (2013).

Environmental Dynamism was measured using the scales of Dess & Beard (1984); Tan & Litschert (1994) and Wu, (2010) and **Competitive advantage** was measured using the scale of Chang (2011), Li and Liu (2012).

4.10.4. Measurement scales and their sources of bias

An issue that requires attention and subsequent discussion is the use of scales in rating questions, when measuring an empirical variable. Measurement scale methodology represents a scientific domain that moved forward significantly, with substantial refinement of survey and scale design methods (Schaeffer and Presser, 2003). Principally drawing from psychology, education and the field of psychometrics is the use of Likert scales that are commonly employed in questionnaires (Likert, 1932). Items in scale represent different sub-conceptions of the measured object (De Vaus, 2002). Responses indicate different degrees of agreement or disagreement with an item. Yet, there are some common misconceptions associated with the use of Likert scales and for meeting the study's commitment in terms of methodological comprehensiveness, it is important to illustrate and subsequently discuss them. Carifio and Perla (2007), putting profound emphasis on the linguistics associated with measurement scales, represented a very

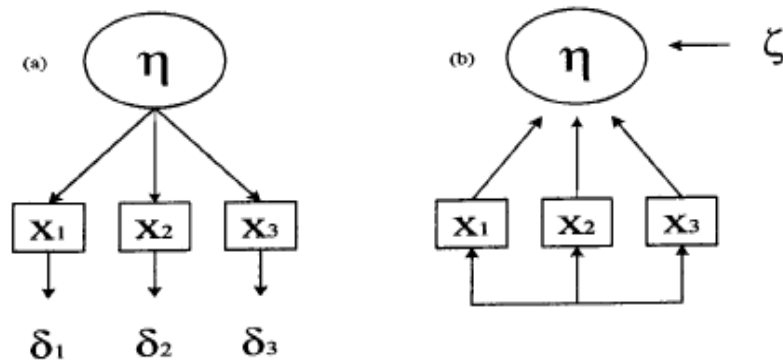
interesting selection of the myths and urban legends associated with the use of Likert scales. This is important as these aspects represent sources of potential bias. First authors stressed the fact that scale items are not autonomous and independent but they represent a structured and coherent whole, an argument that this thesis is in full agreement with. There are specific empirical, logical and content criteria that need to be assessed in order to have a sound understanding of validity issues regarding the utilisation of a Likert scale in entrepreneurship research and the psychometric literature provides the fertile ground to do so (Kerlinger and Lee, 2002). Such issues can be positioned in the logical/semantic (content and face validity) and empirical (concurrent, predictive and construct) types of validities (Carifio and Perla, 2007: 109). Obviously, the empirical validities act as confirmations of the 'logical' - theoretical validities. By embracing such measurement scaling techniques, research is sensitive towards a series of bias. At first, as the respondent answers the questions, scales reflect information that was available at the time of the survey therefore there is a context effect bias that is caused by the scale construction itself (Tourangeau, 1999). Such bias is defined as order effects and occurs when responses to later questions are shaped by content of earlier questions. Therefore, the order in the research instrument has paramount importance. Such 'assimilation effects' (Tourangeau, 1999) seem unavoidable when Likert scales are employed in the research instrument. Obviously, in such a case the outcome in analytical terms may be high inter correlations between items and it is argued that such a correlation represents a source of error itself. In a multiple regression framework, where simple predictions of the dependent variable from a series of independent variables is the case such a high inter-correlation is not a problem yet as this study is also interested in understanding the strength of the associations, potentially these assertions may underpin the existence of multi collinearity, where a series of diagnostics are undertaken and such procedures are illustrated in the analytical part of this thesis.

4.11. Choosing a measurement perspective

Within the confounds of management science, critique regarding the use of single indicator measures persists (Podsakoff *et al.*, 2006) with sheer lack of attention directed towards construct measurement (Boyd *et al.*, 2005). In particular, justification of the reflective and formative measurement perspectives appears neglected from research into organisations (Diamantopoulos and Siguaaw, 2006; Hitt et al. 1998). This study argues that such a discussion is of paramount importance for fulfilling any research project,

reflecting the conceptualisation of phenomena and their measures (Diamantopoulos and Winklhofer, 2001; MacKenzie, Podsakoff and Jarvis, 2005; Edwards and Bagozzi, 2000). Failure to do so, would lead to the irreversible risk of measurement model misspecification (Diamantopoulos, Riefler and Roth, 2008; Jarvis, Mackenzie and Podsakoff, 2003) which undermines content validity of the constructs, unavoidably resulting a type I error. This study embraces the reflective perspective for the independent constructs - in full line with existing literature - yet the formative 'route' (Law and Wong, 1999) is followed for modelling SME growth as a latent variable. Figure 4.6 represents the underlying differences between the two measurement perspectives and table 6.3 illustrates a framework for model assessment taking into account the theoretical and empirical considerations which illustrate differences between the two.

Figure 4.6: Differences in (a) reflective and (b) formative measurement Reflective and Formative Measures Effect Model (Reflective indicators) and Causal Model (Formative indicators)



(adopted: Coltman *et al.*, 2008)

The above illustration has three broad theoretical considerations, which in return have three empirical requirements themselves. The first implication for application of this framework stems from the notion that “*most researchers in the social sciences assume that indicators are effect indicators*”(Bollen, 1989:65). And, while this has been the case nearly twenty years ago, it seems that the same scepticisms persist (Venaik *et al.*, 2004), with consistent lack of argumentation and intellectual debate regarding the choice of measurement perspective (Diamantopoulos, Riefler and Roth, 2008) being evident throughout management science. This also echoes the views of Jarvis, MacKenzie and Podsakoff (2003) who argued that managerial constructs might be better articulated

utilising formative rather than reflective indicators. Unarguably areas of controversy persist, in terms of conceptualisation, estimation and validation of the formative route (Diamantopoulos and Siguaw, 2006; Howell, Breivik and Wilcox, 2007). In particular for entrepreneurship research, lack of argumentation represents a chasm rather than a gap and this is particularly striking as despite the call for methodological justification and rigour (Davidsson *et al.*, 2001), the norm completely depletes formative measurement. Considering the fact that SME growth is embraced from this study as the dependent variable consisted from an index that captures non-financial performance measures this decision to rely on the formative measurement perspective is indeed beneficial and justifiable. The formative perspective enables unification of different facets of performance into a single homogeneous measure. Unarguably this approach suits well the study's analytical needs, avoiding any empirical and

Table 4.2: A framework for assessing reflective and formative models: (adopted from: Coltman *et al.*, 2008)

Considerations	Reflective model	Formative model	Literature streams
Theoretical considerations			
1. Nature of construct	Latent construct is existing *Latent construct exists independent of the measures used	*Latent construct is formed *Latent constructs as a combination of indicators	Borsboom et.al.(2003,2004)
2. Direction of causality between items and latent constructs	Causality from constructs to items *Variation in the construct causes variation in the item measures *Variation in item measures does not cause variation in the construct	Causality from items to construct *Variation in the construct does not cause variation in the item measures *Variation in item measures causes variation in the construct	Bollen and Lennox(1991);Edwards and Bagozzi(2000);Rossiter(2002);Jarvis et al. (2003)
3.Characteristics of items used to measure the constructs	Items are manifested by the construct *Items share a common theme. *Items are interchangeable. *Adding or dropping an item does not change the conceptual domain of the construct	Items define the construct *Items need not share a common theme *Items are not interchangeable *Adding or dropping an item may change the conceptual domain of the construct	Rossiter (2002);Jarvis et.al.(2003)
Empirical Considerations			
4. Item intercorrelation	Items should have high positive intercorrelations * Empirical test: internal consistency and reliability assessed via Cronbach alpha, average variance extracted, and factor loadings (e.g., from common or confirmatory factor analysis)	Items can have any pattern of intercorelation but should possess the same directional relationship *Empirical test: indicator reliability cannot be assessed empirically; various preliminary analyses are useful to check directionality between items and construct	Cronbach (1951);Nunnally and Bernstein(1994);Churchill(1979);Diamantopoulos and Sigauw(2006)
5. Item relationships with construct antecedents and consequences	Items have similar sign and significance of relationships with the antecedents/consequences as the construct *Empirical test: content validity is established based on theoretical considerations, and assessed empirically via convergent and discriminant validity	Items may not have similar significance of relationships with the antecedents/consequences as the construct *Empirical test: nomological validity can be assessed empirically using a MIMIC model, and/or structural linkage with another criterion variable	Bollen and Lennox (1991); Diamantopoulos and Winklhofer (2001); Diamantopoulos and Sigauw (2006)
6. Measurement error and collinearity	Error term in items can be identified *Empirical test: common factor analysis can be used to identify and extract out measurement error	Error term cannot be identified if the formative measurement model is estimated in isolation *Empirical test: vanishing tetrad test can be used to determine if the formative items behave as predicted *Collinearity should be ruled out by standard diagnostics such as the condition index	Bollen and Ting (2000); Diamantopoulos (2006)

4.12. Survey techniques

There are various survey techniques in practice that includes face-to-face, electronic surveys, telephone, electronic or mail surveys (Simsek and Veiga, 2000). The advantages of various techniques of survey administration in management research are well accepted in literature related to methodology (Mellahi and Harris, 2016). It includes the scope of sourcing a fairly big and spread sample with limited resources and lower cost. One fundamental downside of some types of survey techniques are the comparatively low

rates of response (Mellahi & Harris, 2016, Baruchand & Holtom, 2008; Rungtusanatham *et al.*, 2003). This eventually threatens data quality (Schoeni *et al.*, 2013). Print questionnaires intended to target right respondents has become an archaic process. The decline of telephonic interviews and the booming of electronic surveying tools (Dillman *et al.*, 2014) has been recently seen. In this thesis, the respondent-administered survey method is considered as the best means for approaching a sufficient number of SMEs in Gujrat region of western side of India. This region is a fair representation of entrepreneurial flavour in India. The research used the method of respondent-administered way of data collection. During the design of the survey, every measure was taken to increase the chances of improving response rate. The social exchange theory duly characterizes the connection between the participant and researcher. Researchers claim and support that this bonding or association is built on give-and-take of affection, information resources and rewards or incentives (Dillman *et al.*, 2014, Gupta *et al.*, 2010, Dillman, 2007). As a result, all the phases undertaken in the design of survey laid impetus on the quality of the processes to be undertaken for engaging and involving SME owners and senior managers in a trustworthy relationship with the researcher. Reduction of the complexity and length of the measuring instrument by way of pilot testing with advisors and experts in Entrepreneurship, Strategy and small and medium enterprises and technical advisors was quite useful. The welcome and closing statements provided clear instructions for the conduct of participating in the survey. Logos and images of Brunel University were included to establish credibility appeal to the sample population. The use of incentives and rewards were employed to increase response rates. The respondents were promised the “Research Participant Information study document” which ensured data confidentiality and sharing. The targeted participants were underlined that these executives were the only individuals who possessed the experience and knowledge to facilitate the researcher to understand the SMEs’ capabilities, entrepreneurial orientation and competitive strategies in across Indian business landscape. Design of communication was professionally done whereby each contact was made appear important by use of personalized cover letters.

To ensure higher response rate and accuracy in responses, a researcher administered process was adopted. In this process, the respondents were personally approached by the researcher. These target respondents were contacted first by telephone calls and/or emails, and they were explained the purpose of the research study and about the survey.

The target participants were also explained why they were being contacted for the survey and how their responses would be useful for the research. Once they agreed to participate in the survey, the researcher sent them the Research Participant Information study document. After a few days, these target participants were again contacted by the researcher to enquire if they had read the Research Participant Information study document. Once agreed upon, the researcher sought for an appointment from the target participants for their participation in the survey. With a prior appointment, the researcher visited their workplaces and introduced them to the survey. To each of the respondent, the researcher verbally explained the objective of the survey, meanings of terminologies included in the survey, instructions for the survey and parts of the survey. Then, the participants were provided the survey and a pen to facilitate them to participate in the survey. The researcher was seated quietly in front of the respondents for the time they consumed to complete the survey. During their participation in the survey, the researcher provided them clarifications, explanations and assistance, if required any.

4.13. Pilot Study

A pilot study can be used as a “small scale version or trial run in preparation for a major study” (Polit, Beck, & Hungler, 2001, p. 467). Baker (1994) noted that a pilot study is often used to pre-test or try out (pp. 182 –183) a research instrument. Baker found that a sample size of 10–20% of the sample size for the actual study is a reasonable number of participants to consider enrolling in a pilot. Although a pilot study does not guarantee success in the main study, it greatly increases the likelihood. Prior to data collection, a pilot study was conducted in order to test and refine the research instrument, aiming to enhance the study's precision. The pilot study's purpose was to formally introduce the research effort's framework, communicate its aims and objectives and gain valuable feedback from respondents. Utilising a convenience sample of target population, 15 questionnaires were collected via in – depth interviews with entrepreneurs and small business owners and another 20 were collected using a pen-and–paper version of the instrument. Thereafter, they were tested as per the survey methodology as explained in the last paragraph of this topic. Regarding face-to-face communication with entrepreneurs, this process was crucial in order to establish the issues that would later be addressed quantitatively in the survey stage of this study. This gave the opportunity to a) anticipate any deficiencies in the research design prior to the main study, b) see how constructs were interpreted by the target audience, and c) discuss questionnaire's items

in detail. Communicating the objectives of the study with entrepreneurs during this stage was of paramount importance for a handful of reasons. First, such interactions gave the opportunity to discuss and better grasp on the 'realities' of SMEs, as this process was exploratory and qualitative in nature. Second, entrepreneurs offered ample advice and their understanding of the questions, highlighting areas where wording seemed confusing or inappropriate. Moreover, they offered insights on the value of the constructs under scrutiny, thoroughly describing their nature, discussing their character. Participants put strong emphasis on their interpretation of SME growth and how it can be stimulated when pursuing entrepreneurial initiatives. Their comments and valuable critique were taken into account with the introduction of adjustments to the research instrument, in the form of minor word changes. During this process, the time taken for the questionnaire to be completed was recorded in order to have a better grasp of the length of the research instrument and the answering process. According to Hair *et al* (1998), at least 200 cases were required for studies embracing a quantitative analytical plan and as such the pilot data set has been generated by multiplying the collected responses.

Pilot study is a key tool as this enables the testing of the process of survey (Dillman *et al.*, 2014). Main aim of using pilot study in the whole pre-testing process was to increase participant by creation of an instrument which would provide clear instructions and would use precise words (Dillman, 2007). A series of descriptive analyses and simple non-parametric tests was run to test for the measure's reliability and internal consistency. Reliability and factor analyses (using oblique and varimax rotations, both) were instrumental for revealing information, representing a clean factor structure for all of the study's constructs. Reflecting upon the aforementioned process, this feasibility study was important as the above described process gave the opportunity to exchange opinions with the study's target audience and make necessary amendments to the questionnaire. Hence, quite a few questions were modified to decrease ambiguity.

We informed the company owners and executives that their involvement in this study could be helpful in clarifying the underlying confusions and mysteries of relationship between SME entrepreneurship, capabilities and competitive advantage. Information related to the purposes of the research, respondent participation, ethics and confidentiality policy were part of the pack provided. The Research Participant Information study document was taken along at the time of survey administration which

included a 3-page information in detail about the scope, integrity and confidentiality of the research. The respondents were informed and assured that their responses will be treated as strictly confidential. It was also mentioned to them that Brunel University is commits to comply with the UK Universities Research Integrity Concordat. Safeguarding confidentiality and anonymity of participant responses is positively associated with higher response rates (Mellahi and Harris, 2016; Dillman *et al.*, 2014; Dillman, 2007). In case of complaints related to the research, the respondents were guided to contact Chairperson of the “College of Business, Arts and Social Sciences Research Ethics Committee” via email. The SME owners/senior managers were informed that the research is organised in accordance and affiliation with the School of Business, Brunel University. The reason why this much attention to detail was taken is that it was claimed that there is more likelihood that the respondents would complete the questionnaires which belonged to association with reputed and legitimate Institutions. (Dillman *et al.*, 2014; Dillman 2007). Thus including such names would help the researcher to crystallize trustworthiness and credibility which will augment research merit.

The respondents were informed that after the research gets completed, upon their request, they would be provided the brief about the research results and output. Additionally, they were also intimated that a detailed and insightful presentation of the findings and recommendations for their growth and competitive strategy would be made on request. The results of the study were made clear that they would be presented in conferences and workshops to academics and business professionals to help them gain a deep understanding of the relationships between SME capabilities, entrepreneurial orientation and competitive advantage. In summary, attempts were made to make the questionnaire attractive by elegant design and easily understood questions. Contact details of researcher were provided in case at any stage there were any inquiries from the SME firm or the respondents

4.14. Sampling Issues

Research has to be targeted to a specific population and decide on the appropriateness of sampling procedures utilising a range of criteria that makes the targeted population justifiable and in line with the research objectives. To better meet the study's objectives, in close collaboration with the supervisory panel, a set of sampling criteria has been introduced for two

particular reasons. The first criterion, related to the size of employment. As previously discussed in the thesis, the study is explicitly focused on examining its conceptual claims on SMEs which were defined from a policy perspective as organisations consisted from more than 10 employees. . A substantial proportion of these businesses consist of organisations from 0-9 employees that are defined as 'micro-enterprises'. As these organising entities generally remain at the same size throughout their venturing process (Davidsson, Wiklund and Delmar, 2006), the first decision criterion was to exclude them and focus entirely on the 10-100+ employment categories. The logic behind this is related to the growth and scope of operations for these types. We have not put any specific upper limit but the last category of sample is 100 plus employees as firm size. The second criterion was related to firm age. In terms of capability development, theory argues that such higher order constructs develop over time (Zahra *et al.*, 2006). The research focus is on small and medium sized entrepreneurial firms hence it is important to clarify the selection criteria of firm age as generally the youngest firms (0-5 years) are considered more entrepreneurial In order to clarify between SMEs and entrepreneurial firms we have considered the definitions by Carland, J. W, 1984 as our base of understanding and the operational definitions of entrepreneurial ventures by Arend 2014 and Boso et. al 2013 as reference for selecting the age criteria. The focus of research was to understand the interplay between entrepreneurial orientation, dynamic capabilities and competitive advantage. While researching on literature related to dynamic capabilities the following clues were obtained. Dynamic capabilities are built internally and not bought from market (Makadok, 2001). They are organizational processes and firm routines (Helfat et al., 2007; Zollo and Winter, 2002) and they become embedded in the firm over time, and are deployed for the purpose of reconfiguration of firm's resource base which is carried on by deleting dead and unused resources or recombining old resources in new configurations (Simon and Hitt, 2003).

Dynamic capabilities help in changing resource base of the firm by refreshing, renewing and reconfiguring resources(Ambrosini et al, 2009). Teece and Pisano (1994) claimed that building a dynamic capability takes years to a decades- small firms between 0-5 years of age may not fulfil that requirement. Dynamic capabilities are a costly investment and which can incur a high upfront (fixed) cost which will be challenging for small firms to bear since their focus is on selling products, capturing markets, getting market share and managing the liabilities of smallness and newness(Strotzman 2007, Audretsch and Mahmood 1995, Caves 1998)

In summary, the firms which are having 0-5 years of experience may be entrepreneurial but it would be challenging to find manifested dynamic capabilities through surveys by respondents as the firms are so young that respondents may not be aware of underlying dynamic capabilities and that bias might affect our research goals. In terms of EO, scholars argue that such a process is useful as it increases its association with performance outcomes and this relationship becomes more stable and fruitful over time (Wiklund, 1998). Therefore, this study introduced a second sampling criterion and emphasized organisations that had at least five years of registered venturing activity to meet the above considerations. The following sections examine various sampling issues concerning sampling frame, sample collection, survey errors and key informants.

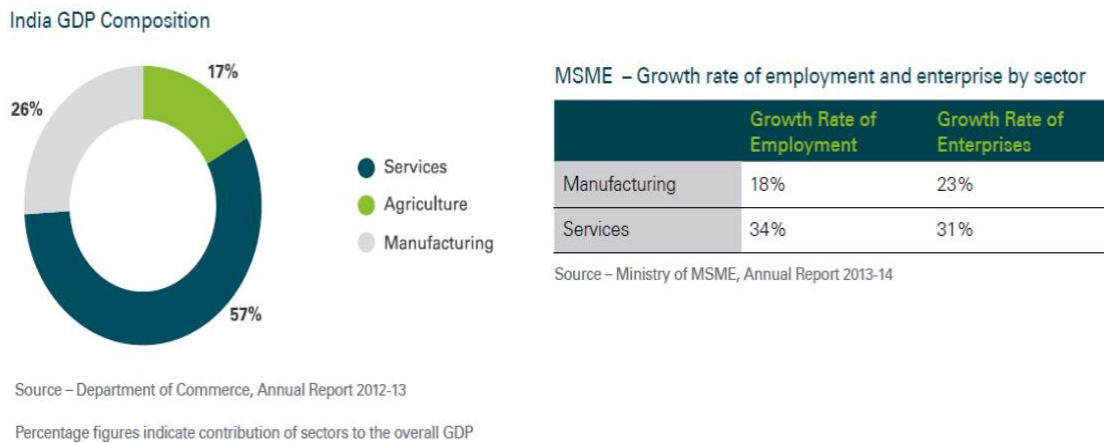
4.14.1 Context of Inquiry

Located in Asia, India is in south Asia, a large country, it is the 7th largest country in the world. It borders with 7 other countries. They are: Afghanistan, Bangladesh, Bhutan, Burma, China, Nepal, Pakistan and Sri Lanka. The population of India is 1,240,340,000 (Feb 2014 estimate). It is the 2nd largest population in the world. India covers an area of 3,287,263 sq. km. It is roughly one third the size of America or China. The economy of India is the seventh-largest in the world measured by nominal GDP and the third-largest by purchasing power parity (PPP). The country is classified as a newly industrialized country, and one of the G-20 major economies, with an average growth rate of approximately 7% over the last two decades. India has one of the fastest growing service sectors in the world with an annual growth rate above 9% since 2001, which contributed to 57% of GDP in 2012–13. India has become a major exporter of IT services, Business Process Outsourcing (BPO) services, and software services with \$167.0 billion worth of service exports in 2013–14. This is the fastest-growing part of the economy. The IT industry continues to be the largest private-sector employer in India. India is the third-largest start-up hub in the world with over 3,100 technology start-ups in 2014–15. The agricultural sector is the largest employer in India's economy but contributes to a declining share of its GDP (17% of GDP in 2013–14). India ranks second worldwide in farm output. The industry sector has held a steady share of its economic contribution (26% of GDP in 2013–14). The Indian automobile industry is one of the largest in the

world with an annual production of 21.48 million vehicles (mostly two and three wheelers) in 2013–14. India had \$600 billion worth of retail market in 2015 and one of world's fastest growing e-commerce markets. According to The World Bank, the Indian economy will likely grow at 7 per cent in 2016-17, followed by further acceleration to 7.6 per cent in 2017-18 and 7.8 per cent in 2018-19. India is expected to be the third largest consumer economy as its consumption may triple to US\$ 4 trillion by 2025, owing to shift in consumer behavior and expenditure pattern, according to a Boston Consulting Group (BCG) report; and is estimated to surpass USA to become the second largest economy in terms of purchasing power parity (PPP) by the year 2040, according to a report by PricewaterhouseCoopers. There are approximately 46 million Micro, Small and Medium Enterprise sector enterprises across various industries, employing 106 million people⁵. Overall, the MSME sector accounts for 45 percent of Indian industrial output and 40 percent of exports. While most of the sector is un-organised (approximately 94 per cent), informal and un-registered, initiatives to have more enterprises registered are well underway. The contribution of the MSME sector to India's GDP currently stands at ~8 per cent for 2011-12⁵, and is growing at a rate higher than the projected GDP growth rate. The contribution of MSME segment to the GDP in some of the global economies is in the 25-60 per cent range. MSME in India has the potential to increase the share of contribution to GDP from the current 8 per cent to about 15 per cent by the year 2020. India needs to create 10 to 15 million job opportunities per year over the next decade to provide gainful employment to its population. Current MSME employment is at 28 per cent of the overall employment. MSMEs can contribute significantly to employment generation and development of the Indian economy. The MSME sector is one of the key drivers for India's transition from an agrarian to an industrialised economy. MSMEs account for a large share of industrial units.

The total number of enterprises in MSME sector was 46 million with total employment of 106 million. It is also critical to see that adequate growth is met across services, manufacturing and agriculture segments to ensure holistic and stable overall economic growth. The current growth of MSME is non-uniform and there exists a significant gap in growth of enterprises across services and manufacturing sectors. The following chart shows the percentage contribution of Indian SME to GDP and employment.

Table (Chart) 4.3- Percentage contribution of Indian SME to GDP and employment



4.14.2 Sampling process

Sampling represents an important procedure in any research effort involving the collection of primary data and deployment of analytical techniques. A sample represents a subset of the population (Cochran, 2009) and the process of information collection from a sample is called sampling (Gray, 2004). Sampling techniques vary depending on the type of study and data to be analysed. Sampling methods are categorised broadly in probability sampling - utilising random selection of cases - and non-probability sampling - where selection is non-randomised and the rationale of probability theory is not taken into account. Typically for inferential statistics random sampling techniques are required (Marczyk *et al.*, 2005). Sampling options are summarised in the following table and the sampling approach.

Table 4.4- Overview of sampling techniques (adopted from: Gray, 2004)

Probability

- Simple random
- Systematic
- Stratified
- Cluster
- Stage

Non-probability

- Convenience
- Voluntary
- Quota
- Purposive
- Snowball

4.14.3 Deciding the sampling frame

Surveys are mainly conducted in order to collect data related to a population. It is impractical and extremely daunting for a researcher to reach the whole population considering the time and resource constraints. As a solution to this, the researchers select a sample. Survey sampling can be classified as- probability and non-probability sampling. For probability sampling, the respondents are randomly selected by using probabilistic mechanisms. While in case non-probability sampling, researcher has the preference as to choice of a sample from population and discretion is also given to each individual to choose whether to participate in the survey (Fricker, 2012). This research has considered the approach of probability sampling and used a “list-based sampling frame” as a means of random selection. For this method of random selection, the research scholar has tried to ensure that the various entities of the population have equal selection probability. We used the information given from the database of Small and Medium Enterprises in Gujarat Region (west region) of India. The database consisted more than 30,000 SMEs. The sectors of firms was the outcome of random selection of sample.

4.14.4. Sample Collection

The sample of this research was Small and medium enterprises in Gujarat Region of India. We procured the latest edition of database of Indian SMEs from the State of Gujarat by getting a database from <https://www.niir.org/>. We checked the credibility of data and authenticity of database by doing random calling. The database consisted email addresses, postal address and field of business of more than 30,000 SMEs. We visited the webpages of 50% of the data to validate the entries.. Reliability and Validity are the very important domains of research design. Yin (1989) discusses four basic tests to evaluate the quality of research design, namely construct validity, internal validity, external validity and reliability. Anderson and Gerbing (1988), Churchill (1995) and Trochim (2000) consider four types of validity: face validity, content validity, construct validity and nomological validity. Mehrens and Lehmann (1984) elaborated reliability from the perspectives of stability, equivalence internal consistency, inter-judge reliability, and intra-judge reliability. The choice of research design and data collection methods depends on the availability of resources and how best the method can generate the required information (Peterson, 1982). This research has a non-experimental research

design (Marczyk *et al.*, 2005: 162) that underpins the philosophical and ethical stances as discussed above which aligns with the overall research goal. The purpose of this research is to understand and explicate the co-alignment of entrepreneurial orientation and dynamic capabilities in dynamic environments and its impact on firm competitive advantage. Because this research's objectives are to establish causal relationships between entrepreneurial orientations, environmental dynamism, dynamic capabilities and competitive advantage quantitative analysis is most appropriate to establish the relationship. Structural equation modelling is employed to data analysis.

In total, the researcher provided them clarifications, explanations and assistance the respondents requested during their participation in the survey. 12% Of the respondents agreed to participate in the survey sought clarifications, 2% of them sought explanation and 6% of them sought assistance such as borrowing pen, asking for water and using the loo in the middle of the survey.

4.15 Research Methodology and analysis plan

The data analysis method adopted by the researcher depends on whether the data will be Quantitative or qualitative. This research has considered the quantitative approach. The analysis conducted on data which is collected in numerical value using is taken and our analysis is based on the collection of numerical data using appropriate measuring instrument design.

Data values obtained by way of the survey administration was extracted in a Microsoft excel spreadsheet and was later extracted and copied as a file in the SPSS 23 software for conducting further multivariate statistical analysis of this research. The main analytical techniques used for this research are - descriptive analysis, exploratory factor analysis, Linear Regression and Confirmatory Factor Analysis. Chapter 5 presents the descriptive statistics for the research which describes what data demonstrates, provides brief about the measures, presents demographics, and facilitate simplification of leap of data in a structured and purposeful way. The output charts from the SPSS software provides useful insights like the mean and standard deviation of each item and variable. Appropriate diagrams and charts are presented and an effort is made to build the foundations for advanced quantitative analysis which is discussed in further chapters.

Chapter 6 discusses exploratory factor analysis using Principal Component Analysis (PCA) as a tool. Primarily any PCA analysis is used as a data reduction technique and to reduce a larger data set into smaller if needed. It was debated whether the research needed PCA as the research has chosen the measurement items as questions/statements reflecting the construct from validated research presented in high quality journals. However, need was felt to still go for PCA as a preliminary data check and to assess low factor loadings or cross factor loadings which would create the need to eliminate that item. Also, most published journals construct was in other countries so it was necessary to check the same in Indian context. Secondly, it was an opportunity for researcher to rename- change the label of the constructs in case if they felt appropriate. Principal Components Analysis can be understood as an modification of a group of correlated variables (a_1, a_2, \dots, a_n) in terms of a new group of variables which are uncorrelated, the principal components (b_1, b_2, \dots, b_n) where each of it is a linear combination of the a variable (Everitt, and Hothorn, 2011). We felt that PCA is a proper approach for our research analysis as we want to condense our data, find the linear components and comprehend how particular variables contribute to the variable components. Chapter 6 also measures various types of construct validity.

After conducting Principal Component Analysis, this research utilizes regression, the Confirmatory Factor Analysis (CFA) and Structural Equation Modelling (SEM) techniques. The confirmatory method will be employed to assess the propositions regarding the underlying variable structure. Once CFA is completed, the evaluated structural models will scrutinize the interrelationship between the multiple dependent and independent variables by comparing with various goodness of fit indices to determine the model fitness. Both Confirmatory Factor Analysis (CFA) and the Structural Equation Modelling, as well as testing the relationships of our hypotheses will be carried out by using Analysis of moment structure (AMOS) software.

When research is accepting the principles of inferential statistics it is crucial for the purpose of interpretation to consider and specify tolerable levels of statistical error (Hair *et al.*, 1998; Cohen, 1994; Sedlmeier and Gigerenzer, 1989) or statistical power (Cohen, 1988; Kraemer and Thiemann, 1987; Lipsey, 1990). Literature related to statistics argues that is necessary to discuss type I and type II errors that are related inversely to each

other. A sizeable body of research and analytic regiments related to hypothesis testing are available (Murphy and Myers, 2004; Cohen 1994) and the justification of this analysis before reporting of analytical findings is to take cognizance of those considerations. Generally, type I error appears when research rejects the null hypothesis when it is actually true. It is aptly described as 'falsely positive'. Conversely, a type II error appears when research fails to reject the null hypothesis when it is actually false (Murphy and Myers, 2004). This call about decision standard or criterion testing of hypothesis has significant impact on statistical power of the study. When the research establishes the level of significance within an acceptable threshold by specifying the level of type I error i.e. the alpha. This decision has inverse effects on type II error as it increases, should type I becomes more sensitive, closer to zero. Thus, the process needs balancing between the two. In the realm of social science studies, a generic rule of thumb dictates the use of alpha levels of .05 or .01 (Hair *et al.*, 1998:11). Most social science researches constrain alpha to the .05 level, the most conservative yet acceptable threshold in order to avoid the 'false positive' trap described above. However, this study mainly uses Likert scales for the operationalization of all of the fundamental constructs of the model and for this purpose the research follows the justification of Jaccard and Wan (1996, p.4) whereby it is claimed that "for a lot of statistical tests, rather severe departures (from intervalness) do not affect Type I and Type II errors dramatically."

4.16 Chapter summary

The purpose of this chapter was to introduce aspects related to philosophical, ethical and design details and empirical approach of this study. It is an intent to introduce the methodological context of this research effort. Rather than representing the range of choice in terms of techniques and research designs, here the objective was to specifically emphasise on those aspects that require attention within the realm of this study, discuss courses of action to counterbalance problematic aspects that stem from the examination and integration of the phenomena under scrutiny. Unarguably a delicate and synthetic task, this effort bridges the conceptual map and now that this part is accomplished the study turns its attention towards the analytical fore front.

As such, emphasis was given on a number of epistemological and theoretical perspectives underlying the empirical study, the adopted research design approach, sampling procedures, as well as issues relating to self-administered survey implementation. In this thesis, we use a

positivism paradigm and make an attempt to gain knowledge about the causality between SME entrepreneurial orientation, dynamic capabilities and competitive advantage. We intend to comprehend social phenomena based on our propositions, numbers and collection of data from a large sample of respondents. With reference to current methodology, this research will perform sequence of statistical techniques which will be analytically presented Chapters 5, 6 and 7. Figures 4.7 and 4.8 provides an integrated picture of some of the important aspects deliberated in this chapter. In the following chapter, the descriptive findings are presented and discussed.

“Although research methodologies evolve over time, there has been little change in the fundamental principles of good research design: match your design to your question, match construct definition with operationalization, carefully specify your model, use measures with established construct validity or provide such evidence, choose samples and procedures that are appropriate to your unique research question” (Bono and McNamara, 2011:659)

Figure: 4.7. Linkages between research philosophy, methodology and methods in this study

Figure: 4.8. Purpose and design of this research

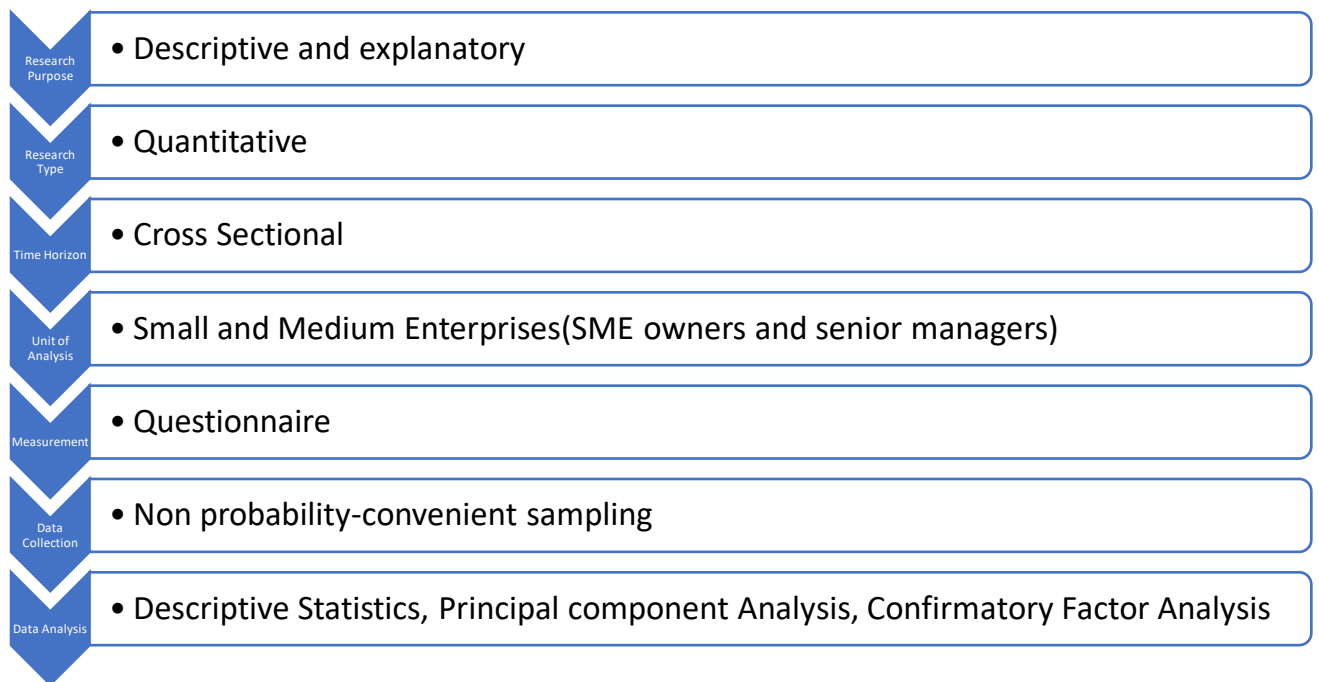
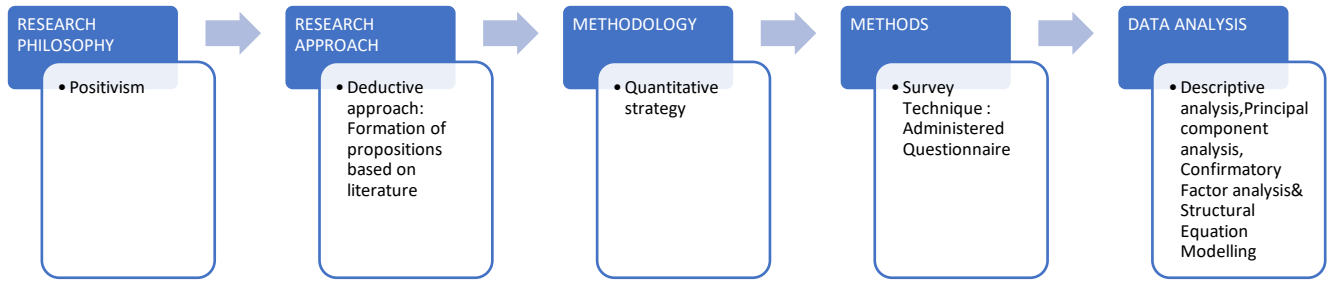


Figure: 4.7. Linkages between research philosophy, methodology and methods in this study

Figure - 4.8 Purpose and design of this research

Chapter 5

Descriptive Analysis

5.1 Introduction

In this chapter, following the discussion on research approaches and methodology design of this thesis, an initial view of the data is provided through the presentation of descriptive statistics. More particularly, frequencies of responses, measures of location (i.e. mean and mode) and standard deviation of variables will be presented, before proceeding to the following chapters, which will examine the relationships between the constructs, in order to test the hypotheses. The descriptive statistics will present data from all constructs including entrepreneurial orientation, dynamic capabilities, environmental dynamism and firm competitive advantage.

5.2 Overview of Demographic characteristics

Using the 31-item questionnaire designed to understand the relationship between entrepreneurial orientation, dynamic capabilities and competitive advantage of SMEs in dynamic business environment from the sample respondents. 35 responses were used for the pilot study and reliability analysis of the questionnaire was carried out. The responses received out of pilot study has been discussed in earlier chapter and hence they are not part of the main research conducted thereafter. Based on the results, data was further collected. A total of **840** SME firm owners/senior managers were contacted from the sampling frame. Out of a total **287** responses were received, **39** responses were found incomplete (i.e. more than 10 items were not responded by the respondent). Rest of the responses were found complete and thus, a total of 248 valid responses were collected, producing **29.52%** response rate. The demographic characteristics are mentioned in Table 5.1.

Table 5.1: Demographic characteristics of sample

A RESPONDENT DETAILS	Frequency (%)
1 Gender (n=248)	
Male	209(83.9%)
Female	39(15.7%)
2 Respondent age (n=248)	
under 30 years	30(12%)
31-40	102(41%)
41-50	94(37.8%)
over 50	22(8.8%)
3 Respondent work experience(n=248)	
under 10 years	35(14.1%)
10-20 years	110(44.2%)
21-30 years	87(34.9%)
over 30 years	16(6.4%)
4 Education (n=248)	
Bachelor's degree	35(14.1%)
Master's degree	185(74.3%)
Doctorate degree	16(6.4%)
Others	12(4.8%)
5 Respondent relationship in firm (n=248)	
Founder/Owner	156(62.7%)
Family members of founder/owner	57(22.9%)
Professional/ senior Manager	35(14.1%)
B FIRM DETAILS	
1 Firm size (no. of employees) (n=248)	
1-25	105(42.3%)
26-50	80(32.3%)
51-75	39(15.7%)
76-100	15(6%)
100+	9(3.6%)
2 Firm Age (years)(n=248)	
5-15	117(47.2%)
16-25	74(29.8%)
26-35	40(16.1%)
36-50	13(5.2%)
50+	4(1.6%)
3 Firm Type(n=248)	
Manufacturing	47(19%)
Trading	64(25.8%)
Professional/Scientific/Technical services	79(31.9%)
Hospitality/Food	39(15.7%)
Others	29(7.7%)

The following are the pie- charts and the analysis and interpretation of the demographics aspects of sample under study.

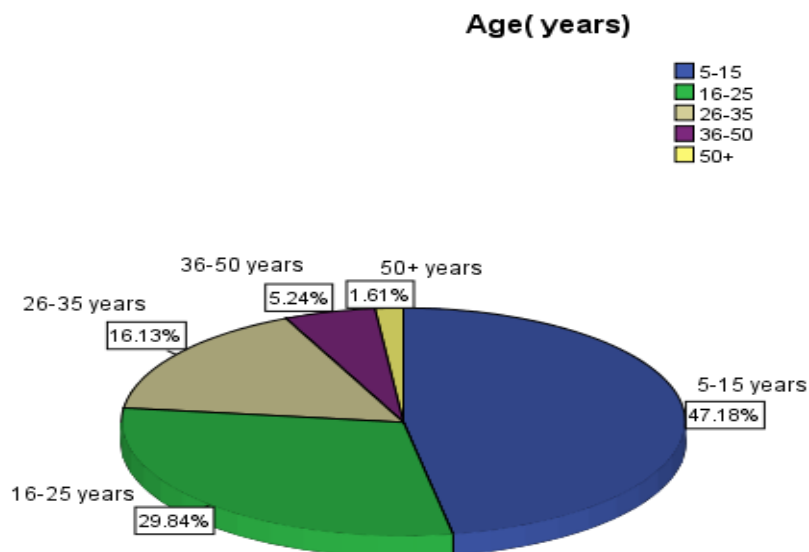
5.2.1 Firm Age

The criteria of firm age were divided into range of 5 categories as follows:

Firm Age (no. of years): 1. 5-15, 2. 16-25, 3. 26-35, 4. 36-50, 5. 50+.

Following figure 5.1 explains the classification of firms according to the age. The number of youngest firms in the age of 5-15 was the highest (105) with the highest proportion of 42.34%. This was followed by the firms aged between 16 to 25 years which were 80 in number and proportion of 32.26%. The third category of firms was with age between 26 to 35 years which were 39 in number with 15.73%. 15 firms were in range of age 36 to 50 years with proportion of 6.05%. Only 9 firms (3.63%) were there in the category of firms with age 50 years and above.

Figure: 5.1- Firm Classification by Age



5.2.2 Firm Size

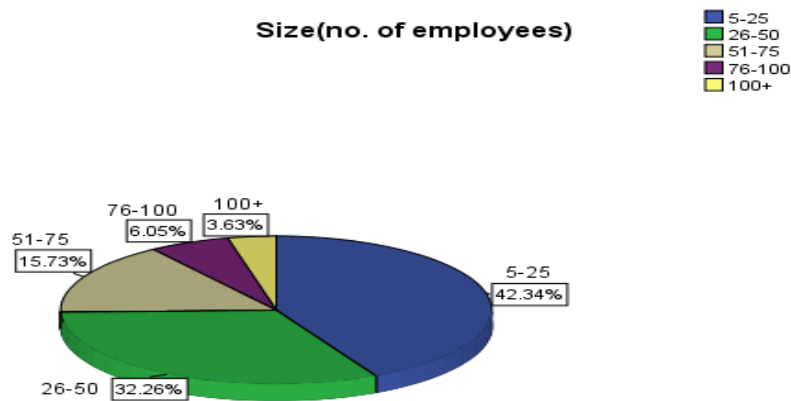
The size of firms was divided by number of employees into range of 5 categories as follows:

Firm Size (no. of employees): 1. 1-25, 2. 26-50, 3. 51-75, 4. 76-100, 5. >100

Following Figure 5.2 explains the classification of firms according to the size in terms of number of employees.

105 firms are the smallest in terms of size with number of employees in the range of 5-25 which also formed the major proportion (42.34%) followed by 80 firms with employees between 25-30 (32.3%). 39 firms had employees in the range of 51-75 which was 15.7%. 15 firms (6%) had employees in the range of 76-100 and only 9 firms (3.6%) had more than 100 employees. This means that the major sample belonged to the category of employee size from 5 to 50 which is a typical size for MSMEs.

Figure 5.2- Firm Classification by Size



5.2.3 Firm Type

Firms were divided into five categories according their type which is –

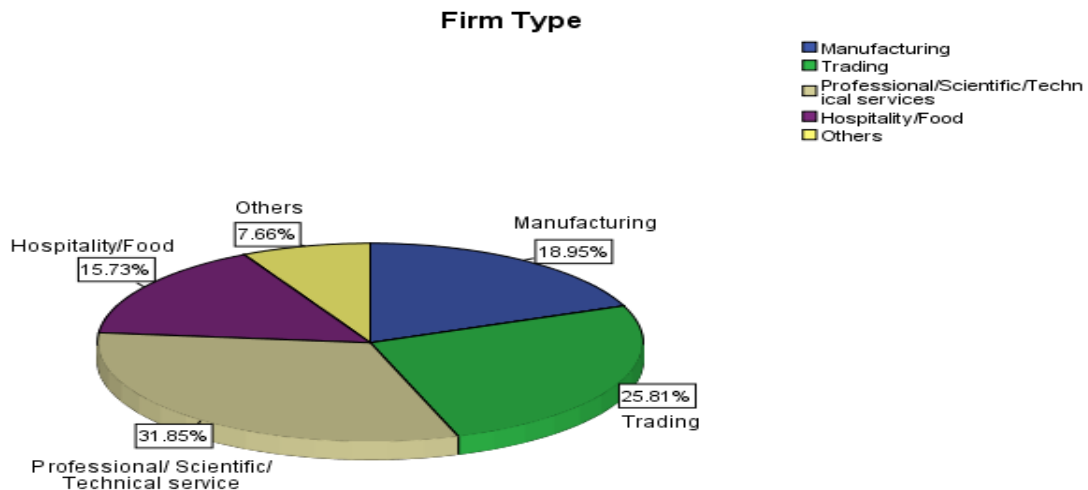
Manufacturing, 2. Trading, 3. Professional/Scientific /Technical Services, 4.

Hospitality/Food, and others.

According to the chart below the number of Professional/Scientific/Technical Services is the highest (79) with the proportion of 31.85%. The number of trading firms are 64 with the proportion of 25.81%. There were 47 manufacturing firms with the proportion of 18.95% and

39 Hospitality /food firms with proportion of 15.73%. The category of others as type of firms was least 19 with proportion of 7.66%.

Figure: 5.3 Firm classification by type.



5.3 Descriptive Analysis – Construct of entrepreneurial Orientation

The construct of entrepreneurial orientation consists of 9 items, which are presented in Table 5.2. The table shows the frequencies of responses to the 5-point Likert scale question. SME owners/ Senior Managers were asked to respond to their assessment about their entrepreneurial disposition and their activities, routines and strategies regarding their entrepreneurial orientation which includes questions related to their pro-active traits, their risk-taking proclivity and their innovativeness.

From the first look, it seems that the firm has got high level of entrepreneurial disposition. This can be argued, as the mean for most questions is found to be above 3.2 that is above the median point 3 in the Likert scale questions. More particularly, in all questions of the construct the mean is above the middle point. Interestingly, the SME respondents have scored the highest in questions related to risk taking ability (mean=3.34). Lowest score was reported in ability to pioneer competitive actions against competitor (mean =3.21). Hence although risk taking ability is high, the firms are relatively low initiating competitive actions.

Most number of respondents (21) strongly agreed on their excellence in identifying opportunities. However, the overall mean is for that question was 3.24. Least number of respondents (10) strongly agreed that people in there are encouraged to take risks (mean 3.27) Most number of respondents (88) just agreed on their emphasis on exploration and experimentation for opportunities in their business. However, the overall mean is for that question was 3.30. Least number of respondents (53) just agreed on their initiating actions for competitive response. The overall mean for that question was 3.21. Most number of neutral responses were obtained in question related to actively introducing improvements and innovations in business (152) with an overall lowest mean of 3.34. Least number of neutral responses (105) were obtained in the question related to experimentation and exploration for opportunities. That also have increased the mean to 3.30.

Most respondents (41) disagreed to the two questions which related and emphasis on opportunity exploration and exploitation (mean=3.30). Least disagreement by respondents (16) was found in actively introducing incremental innovations. That contributed towards the highest mean (3.34)

Only 7 (highest number 3 –mean=3.25) respondents strongly disagreed for their business to be first in market for new products and services whereas the least number of respondents for this option was 0.

This analysis proves that over all there is agreement of respondents about the firm possessing entrepreneurial traits as being innovative, risk taking and proactive in their business affairs.

Table 5.2: Descriptive Statistics of Entrepreneurial Orientation of firms

Sr. No	Variables	(1)*	-2	-3	-4	-5	Mean***	SD
1	Our business is creative in its methods of operation EO11	2	29	143	58	16	3.23	0.769
	Response %	0.8	11.7	57.7	23.4	6.5		
2	We always try to take the initiative in every situation (e.g., against competitors, in projects and when working with others) EO12	3	41	114	72	18	3.25	0.858
	Response %	1.2	16.5	46	29	7.3		
3	We actively introduce improvements and	0	16	152	60	20	3.34	0.719

	innovations in our business EOI3							
	Response %	0	6.5	61.3	24.2	8.1		
4	We excel at identifying opportunities EOP1	1	37	132	57	21	3.24	0.823
	Response %	0.4	14.9	53.2	23	8.5		
5	We always try to take the initiative in every situation EOP2	1	37	120	73	17	3.27	0.813
	Response %	0.4	14.9	48.4	29.4	6.9		
6	We initiate actions to which competitors respond EOP3	0	30	151	53	14	3.21	0.721
	Response %	0	12.1	60.9	21.4	5.6		
7	People in our business are encouraged to take calculated risks with new ideas EOR1	0	31	130	77	10	3.27	0.727
	Response %	0	12.5	52.4	31	4		
8	Our business emphasizes both exploration and experimentation for opportunities EOR2	0	41	105	88	14	3.3	0.811
	Response %	0	16.5	42.3	35.5	5.6		
9	The term 'risk taker' is considered a positive attribute for people in our business	0	23	139	75	11	3.3	0.697
	Response %	0	9.3	56	30.2	4.4		

*Scale: (1) =strongly disagree; (5) strongly agree **numbers in brackets indicate percentages

***mean and standard deviation are calculated by excluding the N/A responses

5.4 Descriptive Analysis – Construct of Dynamic Capabilities

The construct of dynamic capabilities consists of 14 items, which are presented in Table 5.3. The table shows the frequencies of responses to the 5-point Likert scale question. SME owners/ Senior Managers were asked to respond to their assessment about their capability to sustain competitive advantage by reconfiguring their competencies in rapidly changing business

environments. Ability of firm is measured by asking questions regarding their routines, beliefs and strategies which includes questions related to their sensing capability, timely response ability and capacity to reconfigure its resources in the light of external and internal changes.

The results of descriptive analysis are very encouraging as it appears that the firm has got quite high levels of dynamic capability. The mean for all questions is found to be above 3.3 that is above the median point 3 in the Likert scale questions. SME respondents have scored the highest in questions related to responsiveness and decision making where firms responded to defects pointed out by employees and customer feedback. Lowest score was reported in knowing how to access new information and participation in professional activities. (mean=3.30). That means that the focus is more on responding to defects rather than an outside in approach of sensing market information and working for new knowledge initiatives. This may be due to the fact that good data and information related to MSME sectors may not be available or unreliable or the modes of access are limited.

It has been observed that the question were maximum respondents (21) strongly agreed was that the respondents could recognize the utility of new information (mean =3.47). Lowest number of respondents (7) strongly disagreed on successful implementation of plans for changes in the firm. That means that the new change implementation is a less occurring event. (Mean =3.37)

The highest number of respondents (117) has agreed that they have systematic search routines by established processes to identify target market segments, changing customer needs and customer innovation. (mean=3.46). Whereas 87 respondents (mean=3.44) were the lowest to agree that they observe best practices of the sector. The highest number where the participants were neutral in the belief that they have implemented new kinds of management methods in last five years was 130 responses (mean=3.41) where the lowest responses in neutral were 88 (mean=3.46) to their belief that they have systematic research routines for market sensing. The highest number of participants (20) (mean=3.46) disagreed in the question having systematic search routines for market sensing whereas the lowest number of respondents (15) (mean=3.30) disagreed for the belief that people participate in professional activities. Very few participants have strongly disagreed, highest being 8 respondents (mean=3.30) related to the questions as to knowing how to access new information and participation of people in professional activities and lowest number of participants who disagreed were 0.

Table 5.3: Descriptive Statistics of Dynamic Capability of firms

(*Scale: (1) =strongly disagree; (5) strongly agree **numbers in brackets indicate percentages ***mean and standard deviation are calculated by excluding the N/A responses)

Sr. No	Variables		(1) *	-2	-3	-4	-5	Mean***	SD
	In my organization....								
	Dynamic Capability: Strategic sense making capacity in my organization								
1	As a company, we know how to access new information.	DCSS1	8 (3.2)	19	122	89	10	3.3	0.8
	Response %		3.2	7.7	49.2	35.9	4		
2	People participate in professional association activities	DCSS2	8	15	113	94	18	3.3	0.838
	Response %		3.2	6	45.6	37.9	7.3		
3	We observe best practices in our sector.	DCSS3	3	18	117	87	23	3.44	0.808
	Response %		1.2	7.3	47.2	35.1	9.3		
4	We can perceive environmental change before competitors	DCSS4	8	16	103	107	14	3.42	0.825
	Response %		3.2	6.5	41.5	43.1	5.6		
5	We have systemic search routines by established processes to identify target market segments, changing customer needs and customer innovation	DCSS5	7	20	88	117	16	3.46	0.843
			2.8	8.1	35.5	47.2	6.9		
	Dynamic capability- Responsiveness and decision making								
6	We are effective in utilizing knowledge into new products	DCSD1	1	16	115	101	15	3.46	0.724
	Response %		0.4	6.5	46.4	40.7	6		
7	We can make timely decisions to deal with strategic problems.	DCSD2	0	19	124	90	15	3.41	0.719
	Response %		0	7.7	50	36.3	6		

8	We respond to defects pointed out by employees and customer feedback	DCSD3	0	11	127	91	19	3.48	0.702
	Response %		0	4.4	51.2	36.7	7.7		
9	We recognize what new information can be utilized in our company.	DCSD4	0	16	120	91	21	3.47	0.74
	Response %		0	6.5	48.4	36.7	8.5		
	Dynamic Capability-Reconfiguration ability. In my organization ...								
10	In last five years, we have implemented new kinds of management methods.	DCRDC1	4	7	130	97	10	3.41	0.691
	Response %		1.6	2.8	52.4	39.1	4		
11	By defining clear responsibilities, we successfully implement plans for changes in our company. Response %		1.6	7.7	45.6	42.3	2.8		
12	In the last five years our organization has substantially renewed its business processes	DCRDC3	3	17	119	98	10	3.39	0.728
	Response %		1.2	6.9	48	39.9	4		
13	In the last five years, the firm has implemented new or substantially changed ways of achieving our targets and objectives.	DCRDC4	3	10	126	98	11	3.42	0.698
	Response %		1.2	4	50.8	39.5	4.4		
14	Decisions on planned changes are pursued consistently in our company	DCRC4	3	16	115	100	14	3.43	0.749
	Response %		1.2	6.5	46.4	40.3	5.6		

5.5- Descriptive Analysis – Construct of external environment

The external environment was measured with 4 variables, which are presented in Table 5.4. Similarly, to the variables on the entrepreneurial orientation, the questions were measured on a 5-point Likert scale, however different variables used different labels in the scales, due to the different nature of question; the labels used in the questions are provided at the bottom of the table. The questions asked about the external environment aimed at capturing the three dimensions that were discussed in earlier chapters, which are dynamism, complexity and munificence. The mean of all responses is more than 3. Hence, we can infer that it is slightly higher than the neutral. The highest mean is 3.31 whereas the lowest mean is 3.14. It has been observed that all the questions had exactly 11 responses with strongly agree option with respect to the four questions. The highest number of responses (83) (mean=3.25) belonged to the question in which the respondents agreed to the statement that actions of competitors were difficult to predict whereas the minimum responses to the option of “agree” was 65 (mean 3.14 and 3.20 respectively) for statements related to the quick progress of technology and difficulty in prediction of customer needs. Highest responses (139) (mean 3.20) were having neutral belief that it was difficult to predict customer needs and least 108 (mean=3.25) were neutral for the belief that the actions of competitors are difficult to predict. The highest number of responses received in for questions where they not agree that the technology in the industry progresses quickly (n=65) (mean=3.14) and to predict the change of customers’ needs is difficult (n=65) (mean=3.20). Highest responses 4 (mean=3.20) were received where respondents strongly did not agree that prediction of customer needs was difficult and lowest responses 2(n=3.25) related to the belief that the actions of competitors was difficult to predict.

Table 5.4: Descriptive Statistics of Environmental Dynamism

	Environmental Dynamism		1	2	3	4	5	Mean	SD
1	The products/service in our industry updates quickly.	ED1	3	19	135	80	11	3.31	.729
	Response %		1.2	7.7	54.4	32.3	4.4		
2	The actions of competitors are difficult to predict.	ED2	2	42	108	83	11	3.25	.815
	Response %		.8	16.9	43.5	34.3	4.4		
3	The technology in our industry progresses quickly.	ED3	5	42	125	65	11	3.14	.820
	Response %		2.0	16.9	50.4	26.2	4.4		
4	To predict change of customer needs is difficult.	ED4	4	29	139	65	11	3.20	.763
	Response %		1.6	11.7	56.0	26.2	4.4		

5.6 Descriptive Analysis- construct of competitive advantage

Competitive advantage is the dependent variable of thesis. It was measured with 4 questions, which are presented below in in Table 5.5. Similarly, to the variables on the constructs above the questions were measured on a 5-point Likert scale, however different variables used different labels in the scales, due to the different nature of question; the labels used in the questions are provided at the bottom of the table. The questions asked about the perceptions of competitive advantage aimed at capturing the three dimensions that were discussed in earlier chapters, market share of the firm, growth in market share, overall competitive position of the firm and growth in return on investment. It is noticed that mean scores are just about the median point i.e. 3. The highest reported mean is 3.24 and lowest reported mean is 3.20. In specific, regarding the competitive advantage dimension, SME owners and senior management team were asked about their perception that their market share is above average. The mean of that item was 3.23 where highest number of respondents (150) choose to be neutral and after that 71 respondents agreed that their market share was above average. 6 respondents strongly agreed to the above whereas only 4 respondents strongly disagreed.

In second question the respondents were asked if they believed the growth of their market share was above average. The mean of the question was 3.21. Highest number of respondent (151) were neutral to the statement and the next highest (82) strongly agreed. 12 respondents strongly agreed and 17 respondents disagreed that the growth in market rate was above average. Interestingly only 1 respondent strongly disagreed to the statement. The third dimension of measurement of competitive advantage was related to the perception of overall competitive position being very high. The mean of this statement was 3.20 which was the lowest of all. Highest number of respondents (120) were neutral for this statement followed by 65 respondents who agreed, 43 respondents who disagreed, 17 respondents who strongly agreed and 3 respondents who strongly disagreed. The last dimension of competitive advantage was related to degree of agreement of respondents for their growth in return on investment being above average. This statement had the highest mean (3.24). 138 participants which was the highest, were neutral in their perception for the statement followed by 58 respondents who agreed, 30 respondents who disagreed, 17 respondents who strongly agreed and only 3 respondents strongly disagreed. Over all, it is evident that the highest confidence was found in respondents when it came to growth in return on investment being above average (mean=3.24) which was a positive sign for emerging economies. However lowest mean (3.20) was in confidence related to the high overall competitive position.

Table 5.5: Descriptive Statistics of Competitive advantage

Sr. No	Variables	(1) *	(2)	(3)	(4)	(5)	N/A	N	Mean***	SD
	Competitive Advantage									
1	The market share of the firm is above average	4	17	150	71	6			3.23	.681
	Response %	1.8	6.9	60.5	28.6	2.4				
2	The growth of market share is above average	1	52	101	82	12			3.21	.842
	Response %	.4	21	40.7	33.1	4.8				
3	The overall competitive position of firm is very high	3	43	120	65	17			3.20	.849
	Response %	1.2	17.3	48.4	26.2	6.9				
4	The growth in return on investment is above average	3	30	138	58	19			3.24	.809
	Response %	1.2	12.1	55.6	23.4	7.7				

5.7 Chapter Summary

This chapter presented the descriptive results of all variables included in the theoretical model of the thesis. The following chapter will present the results of the factors analysis and analytical regimes related to testing of hypothesis using regression and structural equation modelling techniques.

Chapter 6

Factor Analysis

6.1 Introduction

Previous chapter presented the descriptive findings that resulted from the study's conducted survey. This chapter will continue the data examination by using more complex statistical techniques, considered a required step before proceeding to the next chapter, which will investigate potential relationships between constructs and variables identified and hypothesized in earlier chapters.

From the development of previous chapters, it is evident while few constructs are included in the theoretical model, there are numerous variables proposed to capture these constructs. As such, the main steps to be followed in this chapter are specific. First step is to examine the data before any analysis, to detect and delete cases with missing data and outliers' responses that could influence the results. Second step is to conduct exploratory factor analysis (EFA) using principal component analysis in order to reduce the construct variables into various dimensions (i.e. factors) that capture this construct. After that, this thesis also performs confirmatory factor analysis to confirm that the values of the items identified as factors are good to be used for hypothesis testing further. Furthermore, validity and reliability tests of the scales will be conducted to ensure construct validity. Next step after EFA and CFA is to examine the correlation results of variables within the proposed constructs. This ensures that they are interrelated which indicates that they aim to measure a similar concept. On the other hand, their correlation should not be above a certain limit, as this could indicate that the variables do not differ from each other.

In the social sciences, we often measure concepts that cannot directly be measured (so-called latent variables). This chapter will look at factor analysis (and principal component analysis) – a technique for identifying groups or clusters of variables. This technique has three main uses: (1) to understand the structure of a set of variables, (2) to construct a questionnaire to measure an underlying, and (3) to reduce a data set to a more manageable size while retaining as much of the original information as possible. Through this chapter, we'll discover what the factors are, how we find them, and what they tell us (if anything) about the relationships among the variables we've measured.

The first factor analysis model was proposed by Charles Spearman (1904), and over the past century a number of other mathematical models have been suggested. However, most contemporary factor analysis procedures are based on L. L. Thurstone's (1935, 1947). Multiple

Factor Analysis Model, which is now more often referred to as the common factor model. Although our primary goal in this chapter is to focus on the application of factor analysis to answer substantive research questions rather than to provide a detailed treatment of factor analytic theory, a very general understanding of the common factor model can be quite useful.

6.2 Examination of Data prior to Analysis

Before the analysis of every empirical study, there is a need to examine data responses to detect potential problems that could influence the results of the study (Hair *et al.*, 2006). These problems are identified in cases where respondents have many variables/questions in which they have not responded (i.e. missing data), or cases where the respondents' answers can be considered as outliers. According to Hair *et al.* (2006: 73) "*outliers are observations with a unique combination of characteristics identifiable as distinctly different from the other observations. In practice, this is detected as an unusually high or low value on a variable, or a unique combination of values across several variables that make the observation stand out from the others*".

As a result, from the total responses which we received, it was decided in the cleaning data stage that only a 248 would be included in further analysis. Specifically, out of the 287 observations, 34 were considered as having significant missing values since, either the respondents only responded the first part of the survey, or a considerable number of missing values throughout the questionnaire were noticeable. 5 of the observations were excluded from analysis as they behaved like outliers with a unique combination of values across several variables that make the observation stand out from the others. These observations had responses in pattern (e.g consistently choosing value 1 or 3 in questionnaire or giving odd answers as firm size of 0 or 1 member). Nevertheless, before finalizing, the reliability tests and factor analysis were performed with all of the 287 cases and with reduced cases, since there were not significant conceptual differences found in results, it was decided to choose the reduced cases which would be more appropriate for the regression analysis of the following chapters.

6.3 Factor Analysis

Factor analysis, as earlier discussed, is mainly used in order to reduce the data into latent variables (factors) that can explain certain phenomena (i.e. of whole data) to a satisfactory extent. As argued by Joreskog (1974), cited in Gerbing and Anderson, 1988: 411) "*many investigations are to some extent both exploratory and confirmatory since they involve some*

variables of known and other variables of unknown composition". Gerbing and Anderson (1988: 412) argued that the distinction of two methods should not be thought as a strict dichotomy but an ordered progression. However, there are various issues that need to be considered for the selection of the appropriate available method. These issues largely concern conceptual level and it is argued (e.g. Hair *et al.*, 2006: 119; Field 2009: 636) that in many instances, similar empirical results are demonstrated by using different methods.

First step in the analysis is to decide is whether the factor analysis will be *confirmatory* or *exploratory*. Although this thesis has specific hypotheses that need to be tested, the measures that have been utilized -and consequently the data collected- need to be explored first. This happens when "*the researcher has little control over the specification of the structure (e.g., number of factors, loadings of each variable etc.)*" (Hair *et al.*, 2006: 162).

Hair *et al.* (2006) mentioned that an underlying structure is explored from, among a set of variables without any prior confines on the approximation of factors or the numbers of factors to excerpt from the variables in the approach of the exploratory factor analysis (EFA). Whereas in the case of the confirmatory factor analysis (CFA), a test is undertaken on the statistical importance of a hypothesized factor structure, which indicates the number of factors that will exist within a set of variables, as well as the factors tallying to each variable (Lomax and Schumacher and 2004; Hair *et al.*, 2006). Confirmatory factor analysis is a necessary procedure for structural equation modelling analysis. The approach taken by as such, the current thesis performs has performed both confirmatory and exploratory factor analyses, in order to explore the data before concluding on the factors that will be used in the further analysis, rather than test and confirm a hypothesized measurement model. Both the analyses are used independently to test the factors before undergoing further hypothesis testing. Factor analysis and reliability analysis will be done for each of the variables (EO, DC, ED and CA) whereas confirmatory analysis is done for only two constructs (Entrepreneurial Orientation and Dynamic Capabilities) as it is done after confirmation of factor loadings from EFA and because ED and CA has only one factor in scale. According to Thomson 2004: "*factor analysis can be used to summarize relationships in the form of a more parsimonious set of factor scores that can then be used in subsequent analyses*" (e.g., analysis of variance, regression, or descriptive discriminant analysis). In this application, unlike the first two, the factor analysis is only an intermediate step in inquiry, and not the final analysis.

6.4 Exploratory Factor Analysis- Common Factor Analysis Vs. Principal Component Analysis

For undertaking exploratory factor analysis, the different options available had to be considered as a next step. The two most common techniques for exploratory factor analysis are the *principal component analysis* and the *common factor analysis*. As stated by Blunch (2008: 47), both techniques are most often described under the name of factor analysis and little pragmatic differences appear to exist.

The differences between the two methods can be outlined in the following points raised by Hair et al. (2006): **“Component factor analysis is most appropriate when:**

- a) *data reduction is a primary concern*, focusing on the minimum number of factors needed to account for the maximum portion of the total variance represented in the original set of variables.
- b) Prior knowledge suggests that specific and error variance represent a *relatively small proportion* of total variance

Common factor analysis is most appropriate when:

- a) *the primary objective is to identify the latent dimensions or constructs* represented in the original variables, and
- b) the researcher has *little knowledge about the amount of specific and error variance* and therefore wishes to eliminate this variance”.

Although the two methods differ theoretically and some authors argue that they also differ in practical terms (Mulaik, 1990), other scholars claim that often both methods arrive at similar results (Velicer and Jackson, 1990; Guadagnoli and Velicer, 1988), especially when the number of variables exceeds 30 (e.g. Stevens, 2002, cited in Field, 2009: 638; Gorsuch, 1990, cited in Hair et al., 2006: 119), which is the case for the measurement of the directors’ roles construct.

For this thesis, taking into account the above conceptual differences, the principal component analysis was chosen, as the main purpose was regarded the data reduction focusing on the minimum number of factors, with the highest representation of the original set of variables. However, as it is suggested that both methods offer similar results in most of the cases, the following sections might refer to component analysis by also using the term factor analysis, which is a common practice.

6.5 Confirmatory Factor Analysis

The Confirmatory Factor Analysis (CFA), as a part of Structural Equation Modelling, is conducted after EFA which is a priori stage for and helps in setting up the “construct validity” of the factors (Brown 2006):

- *“The results of CFA can provide compelling evidence of the convergent and discriminates validity of theoretical constructs. Convergent validity is indicated by evidence that different indicators of theoretically similar or overlapping constructs are strongly interrelated.... Discriminates validity is indicated by results showing that indicators of theoretically distinct constructs are not highly inter-correlated”.* **Brown (2006)**

Confirmatory factor analysis (CFA) was conducted to test the fitness of the obtained model. It examines the measurement model that supposes each item is only loaded on its expected latent variable (Thompson 2004). In this study, the analysis started with testing a model of one factor (Inclusive Education) and unobserved variables (see the figure 5.2).

6.6 Principal Component Analysis

As stated in the introductory section of this chapter, the first step before proceeding with principal component analysis of the main constructs used (i.e. Entrepreneurial Orientation, Environmental Dynamism, Competitive Advantage and Dynamic Capabilities), is to examine whether there is correlation between the variables of each construct. It was therefore important to perform bivariate correlation analysis and find that the variables/ items are correlated, indicating that they measure the same concept. As a result, correlation analyses were produced to find out whether significant relationships existed between the variables. After conducting correlation analysis, the study uses the techniques of Principal Factor Analysis as well as confirmatory factor analysis.

6.7 Component Analysis of the Entrepreneurial Orientation Measurement

At first, all of the nine items were used in the study to capture Entrepreneurial Orientation were selected to run the component analysis. Firstly, the matrix was scanned for correlations greater than 0.3, then looked for variables that only have a small number of correlations greater than this value. Thereafter, the correlation coefficients themselves were scanned and any values

greater than 0.9 were looked for. If any are found then one should be aware that a problem could arise because of multicollinearity in the data.

In addition, the communalities of the variables were checked in order to confirm that they share satisfactory level of variance (i.e. squared standard deviation). This amount of shared variance between two variables is simply the squared correlation. For more than two variables, the squared multiple correlation of the variable with all others is used; i.e. multiple regression with one outcome variable and all others as predictors (Field, 2009: 637). Communality is the estimate of the variable's shared (or common) variance (Hair *et al.*, 2006: 117). The communality of the variables was acceptable, as it was above 0.5 for all variables (Hair *et al.*, 2006: 149).

Next step was to check the results of factor analysis to find any problems with the loadings of the different factors. According to Hair *et al.* (2006: 151), when cross-loadings are found, further action is needed. This can be either a) purposely ignoring the cross-loadings, or b) deleting the item to eliminate the cross-loadings, or c) using another rotation technique, or d) decreasing the number of factors. For this thesis, due to its exploratory nature, it was decided not to decrease the factors without having clear reason. Ignoring the cross-loadings was considered to be a lenient solution, thus after using other rotation techniques that did not show significant differences, it was decided to delete certain items. These were the items that loaded into two factors with a very similar loading (i.e. loading differences less than 0.1). After deleting certain items, the factor analysis was run again to see if any other items come with cross-loadings.

The next step was to check the measure of sampling adequacy (MSA) of the data collected through the KMO measure (i.e. Kaiser-Meyer-Olkin measure). This was found to be 0.838, which is good (Kaiser and Rice, 1974: 112; Hutcheson and Sofroniou, 1999, cited in Field, 2009: 659). In addition, the Bartlett's Test of Sphericity was found to be significant ($p=0.000$), indicating that there are sufficient significant correlations among the variables (Table 6.1).

After further analysis (**Table .6.1**) we saw that Kaiser (1974) recommends a bare minimum value of 0.5 and specifies that values between 0.5 and 0.7 are mediocre, values between 0.7 and 0.8 are good, values between 0.8 and 0.9 are great and values above 0.9 are high (Hutcheson and Sofroniou, 1999). For these data the value is 0.83, which falls into the range of being good, so we should be confident that the sample size is adequate for factor analysis.

Table No.6.2 (Total variance explained) **and Table no. 6.2** (rotated component matrix) lists the eigenvalues associated with each linear component (factor) before extraction, after extraction and after rotation. Before extraction, SPSS has identified 3 linear components within the data set. The Eigen value associated with each factor represent the variance explained by that particular linear component and SPSS also displays the eigenvalue in terms of the percentage of variance explained. It can be clearly seen that the first factor explains relatively large amounts of variance (especially factor 1) whereas subsequent factors explain only subsequent less amounts of variance. SPSS then extracts all factors with eigenvalues greater than 1, which leaves us with 3 factors. The eigenvalues associated with these factors are again displayed (and the percentage of variance explained) in the columns labelled *Extraction Sums of Squared Loadings*. The values in this part of the table are the same as the values before extraction, except that the values for the discarded factors are ignored (hence, the table is blank after the fourth factor). In the final part of the table (labelled *Rotation Sums of Squared Loadings*), the eigenvalues of the factors after rotation are displayed. Rotation has the effect of optimizing the factor structure and one consequence for these data is that the relative importance of the four factors is equalized. Before rotation, factor 1 accounted for considerably more variance than the remaining 2 (28.068 compared to 22.525 and 18.654).

Table 6.1 Reliability and Validity for the scale of Entrepreneurial Orientation (EO)		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.838
Bartlett's Test of Sphericity	Approx. Chi-Square	813.446
	Df	36
	Sig.	.000

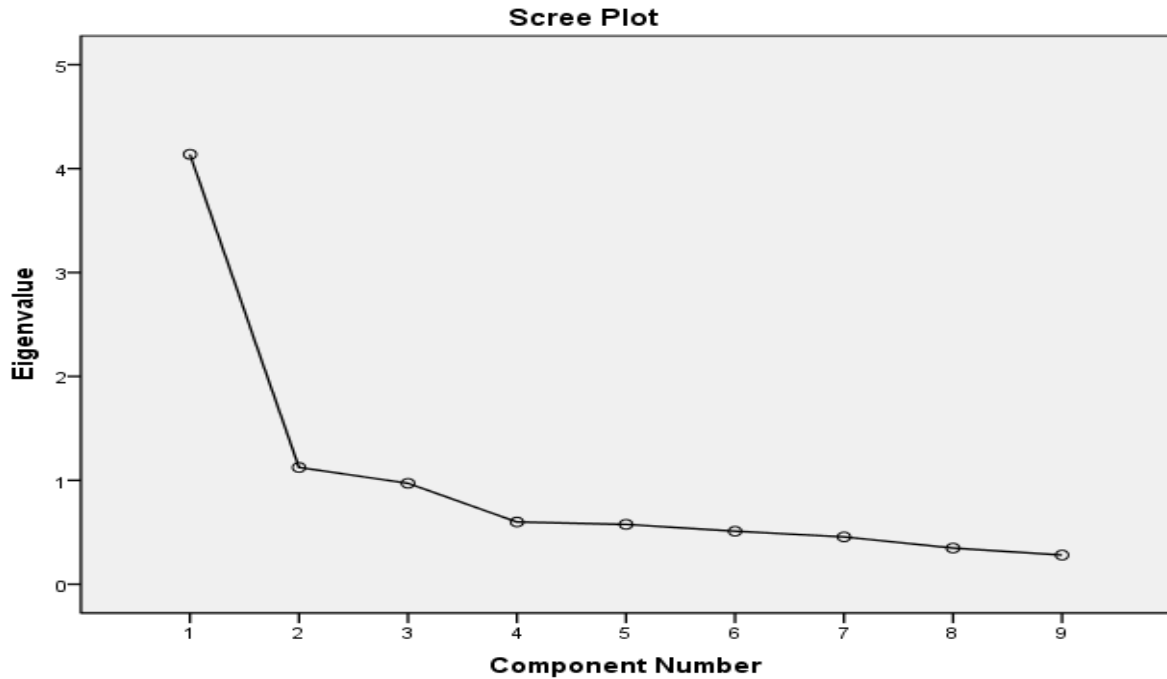
Table .6.2- Total Variance Explained for construct of Entrepreneurial Orientation

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	4.137	45.968	45.968	4.137	45.968	45.968	2.526	28.068	28.068
2	1.124	12.487	58.455	1.124	12.487	58.455	2.526	22.525	50.593
3	.971	10.792	69.247	.971	10.792	69.247	1.679	18.654	69.247
4	.598	6.650	75.896						
5	.576	6.396	82.292						
6	.510	5.667	87.959						
7	.455	5.059	93.018						
8	.348	3.864	96.882						
9	.281	3.118	100.000						

Extraction Method: Principal Component Analysis.

Table 6.3 - Rotated component matrix and scree plot for Entrepreneurial Orientation

Rotated Component Matrix^a			
	Component		
	1	2	3
We excel at identifying opportunities (EOP1)	.788		
We always try to take the initiative in every situation (EOP2)	.841		
We initiate actions to which competitors respond (EOP3)	.697		
Our business is creative in its methods of operation (EOI1)		.807	
Our business is often the first market with new products and services (EOI2)		.813	
We actively introduce improvements and innovations in our business (EOI3)		.638	
People in our business are encouraged to take calculated risks with new ideas (EOR1)			.474
Our business emphasizes both exploration and experimentation for opportunities (EOR2)			.808
Our business frequently tries out new ideas (EOR3)			.823
Eigenvalues	2.526	2.526	1.679
% of Variance	28.068	22.525	18.654
Cumulative %	28.068	50.593	69.247
Cronbach's Alpha	.795	.754	.703
Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization.			
a. Rotation converged in 5 iterations.			



6.8 Confirmatory Analysis for Entrepreneurial Orientation

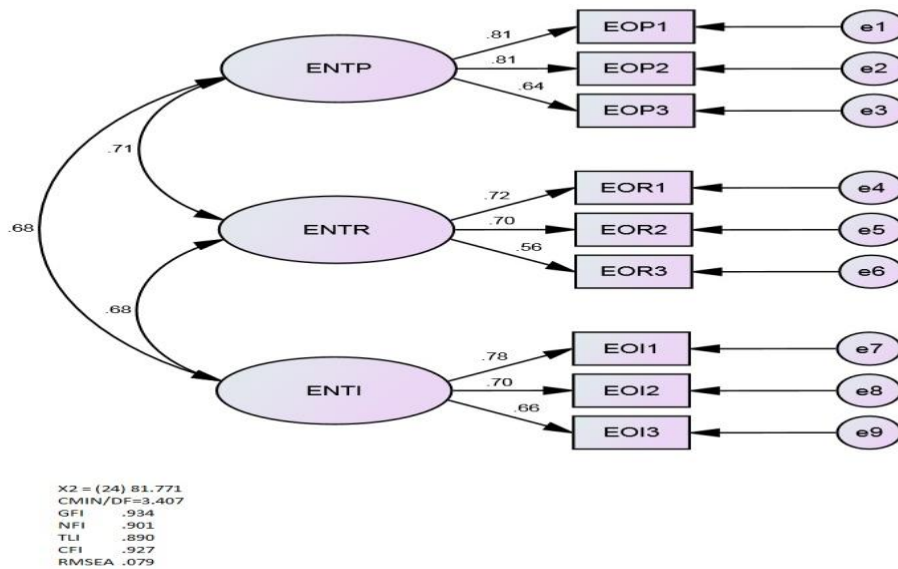
Confirmatory factor analysis is based on theoretical expectations regarding the structure of the data and tests the nature the factors obtained from exploratory factor analysis (Henson and Roberts, 2006). After strong rationale for factors retrieved from the data is established, confirmatory factor analysis is used to test the factors and to identify the strength of relationship between the variables and the factors.

To test the stability of the scale, confirmatory factor analysis was employed on the sample using structural equation modelling. A measurement model was developed using AMOS-23 and Maximum Likelihood method was chosen for confirmatory factor analysis. A number of iterations were executed through post hoc modifications to obtain statistically insignificant chi-square value and thus, to obtain a better-fitting model and a range of indices were used to assess the model fit.

In order to confirm factor structure for EO, we have employed AMOS-23. The original factor structure has been explained in previous chapter. Results from CFA provides good model fit statistic for the scale $\{\chi^2$ (Chi-square) = 81.771 and df 24}, $p > 0.01$, CMIN/df = 3.4, Goodness of Fit Index (GFI) = .934, Comparative Fit Index (CFI) = .927, Tucker- Lewis Coefficient (TLI) = .890, Root Mean Square Error of Approximation (RMSEA) = .079. EO scale with its factors loading has been explained with confirmatory model of HCC which has been elaborated in

Figure 6.1 below. The analysis demonstrated broadly satisfactory levels of fit (Browne and Cudeck, 1993)

Figure 6.1 – Confirmatory Factor Analysis for Entrepreneurial Orientation



6.9. Component Analysis of the Dynamic Capabilities

Then we have used 14 items of dynamic capabilities to test their reliability and validity. Firstly, the matrix was scanned for correlations greater than .3, then identified the variables that only have a small number of correlations greater than this value. Thereafter the correlation coefficients themselves were scanned and any items with values greater than 0.9 were looked for. If any are found, then one has to be aware that a problem could arise because of multicollinearity in the data.

After further analysis (Table 6.4), we saw that Kaiser (1974) recommends a bare minimum of 0.5 and that values between 0.5 and 0.7 are mediocre, values between 0.7 and 0.8 are good, values between 0.8 and 0.9 are great and values above 0.9 are high (Hutcheson and Sofroniou, 1999). For these data the value is 0.736, which falls into the range of being good, so we should be confident that the sample size is adequate for factor analysis.

Table 6.5 lists the Eigen values associated with each linear component (factor) before extraction, after extraction and after rotation. Before extraction, SPSS has identified 3 linear components within the data set. The eigenvalues associated with each factor represent the variance explained by that particular linear component and SPSS also displays the eigenvalue

in terms of the percentage of variance explained. It can be clearly seen that the first factor explains relatively large amounts of variance (especially factor 1) whereas subsequent factors explain only subsequent less amounts of variance. SPSS then extracts all factors with Eigen values greater than 1, which leaves us with 3 factors. But due to low factor loading 3 items (DCSS3, DCRDM4 and DCRC4) items were dropped. The eigenvalues associated with these factors are again displayed (and the percentage of variance explained) in the columns labelled *Extraction Sums of Squared Loadings*. The values in this part of the table are the same as the values before extraction, except that the values for the discarded factors are ignored (hence, the table is blank after the fourth factor). In the final part of the table (labelled *Rotation Sums of Squared Loadings*), the Eigen values of the factors after rotation are displayed. Rotation has the effect of optimizing the factor structure and one consequence for these data is that the relative importance of the four factors is equalized. Before rotation, factor 1 accounted for considerably more variance than the remaining 2 (20.750 compared to 19.634 and 17.661)

Table 6.4- Reliability and validity for Dynamic Capability (DC) Scale

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.743
Bartlett's Test of Sphericity	Approx. Chi-Square	643.142
	df	55
	Sig.	.000

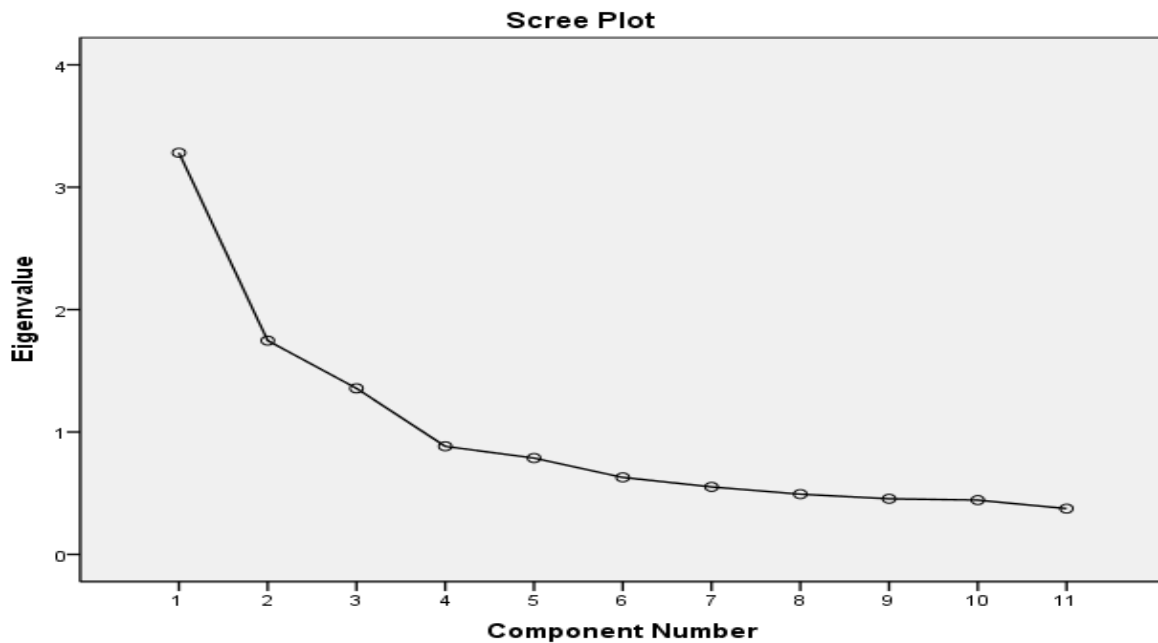
Table 6.5 -Total Variance Explained for Dynamic Capability (DC) Construct

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.221	29.279	29.279	3.221	29.279	29.279	2.283	20.750	20.750
2	1.685	15.319	44.598	1.685	15.319	44.598	2.160	19.634	40.384
3	1.479	13.447	58.045	1.479	13.447	58.045	1.943	17.661	58.045
4	.926	8.421	66.467						
5	.710	6.450	72.917						
6	.647	5.880	78.796						
7	.560	5.093	83.890						
8	.541	4.922	88.812						
9	.455	4.138	92.950						
10	.415	3.772	96.721						
11	.361	3.279	100.000						

Extraction Method: Principal Component Analysis.

Table 6.6- Rotated component matrix for Dynamic Capability (DC) construct

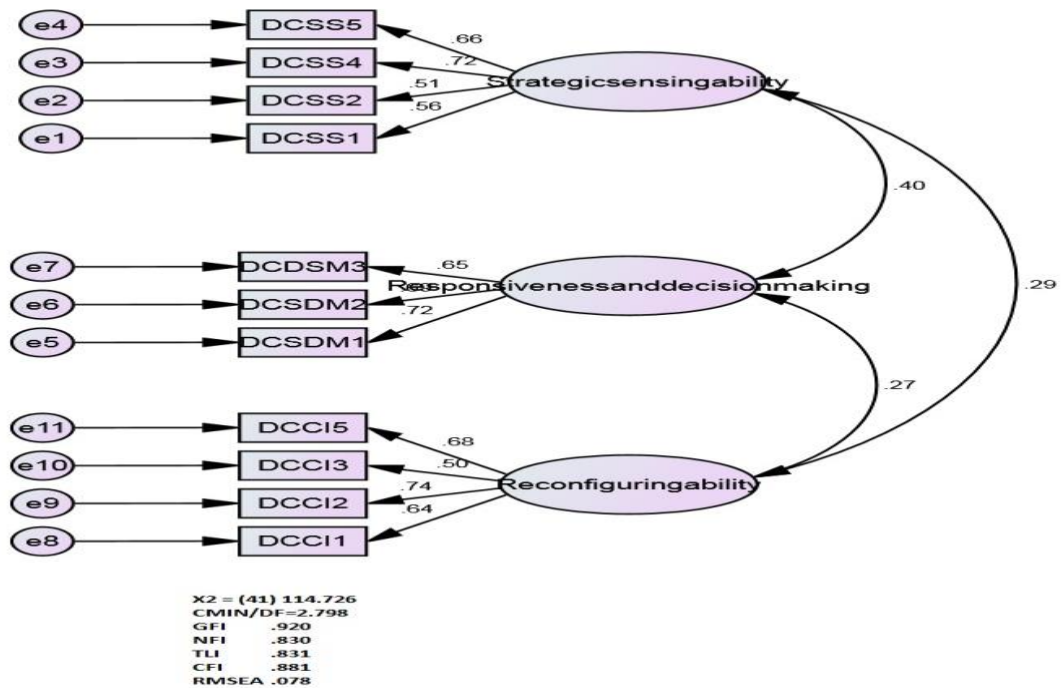
Rotated Component Matrix^a			
	Component		
	1	2	3
As a company, we know how to access new information (DCSS1)		.649	
People participate in professional association activities (DCSS2)		.689	
We observe best practices in our sector (DCSS3)	Item factor deleted loading due to low		
We can perceive environmental change before competitors (DCSS4)		.773	
We have systemic search routines by established processes to identify target market segments, changing customer needs and customer innovation (DCSS5)		.739	
We are effective in utilizing knowledge into new products (DCRDM1)			.848
We can make timely decisions to deal with strategic problems. (DCRDM2)			.829
We recognize what new information can be utilized in our company. (DCRDM3)			.650
We respond to defects pointed out by employees and customer feedback (DCRDM4)	Item low factor deleted loading due to		
In last five years, we have implemented new kinds of management methods. (DCRC1)	.745		
By defining clear responsibilities, we successfully implement plans for changes in our company. (DCRC2)	.810		
In the last five years our organization has substantially renewed its business processes (DCRC3)	.631		
In the last five years, the firm has implemented new or substantially changed ways of achieving our targets and objectives. (DCRC4)	Item deleted due to low factor loading		
Decisions on planned changes are pursued consistently in our company (DCRC5)	.733		
Eigenvalues	2.333	2.196	1.929
% of Variance	21.212	19.963	17.541
Cumulative %	21.633	41.175	58.715
Cronbach's Alpha	.732	.707	.722
Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization.			
a. Rotation converged in 5 iterations.			



6.10. Confirmatory Factor Analysis for Dynamic Capabilities

In order to confirm factor structure for DC, we have employed AMOS-23. The original factor structure has been explained in previous chapter. Results from CFA provides moderately good model fit statistic for the scale $\{\chi^2$ (Chi-square) = 114.726 and df 41}, $p > 0.01$, CMIN/df = 2.7, Goodness of Fit Index (GFI) = .920, Comparative Fit Index (CFI) = .881, Tucker- Lewis Coefficient (TLI) = .831, Root Mean Square Error of Approximation (RMSEA) = .078. DC scale with its factors loading has been explained the Table No. And confirmatory model of HCC has been elaborated in Figure 6.2. The analysis demonstrated broadly satisfactory levels of fit (Browne and Cudeck, 1993)

Figure 6.2- Confirmatory Factor Analysis for construct of Dynamic Capabilities (DC)



6.11 Principal Component Analysis of the environmental dynamism

In order to measure reliability coefficient and to obtain the environmental dynamism factor structure, principle component analysis was employed on the 4 items. As a result (Table 6.7) we saw that Kaiser (1974) recommends a bare minimum of 0.5 and that values between 0.5 and 0.7 are mediocre, values between 0.7 and 0.8 are good, values between 0.8 and 0.9 are great and values above 0.9 are high (Hutcheson and Sofroniou, 1999). For these data the value is 0.77, which falls into the range of being good, so we should be confident that the sample size is adequate for factor analysis. Further analysis also gave the same factor structure for the scale and total variance explained by the factor was 60.796 with the Eigen value 2.422.

Table 6.7- Reliability and Validity test for Environmental Dynamism (ED)

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.776
Bartlett's Test of Sphericity	Approx. Chi-Square	267.697
	Df	6
	Sig.	.000

Table 6.8 -Total Variance Explained for ED

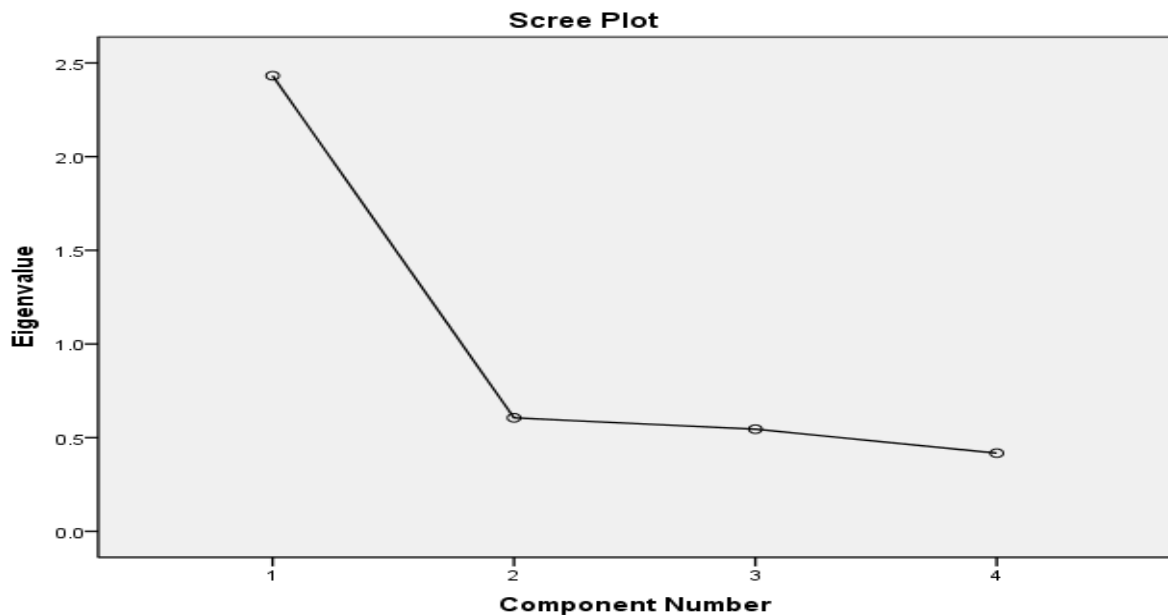
Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.432	60.796	60.796	2.432	60.796	60.796
2	.606	15.142	75.938			
3	.545	13.633	89.570			
4	.417	10.430	100.000			

Extraction Method: Principal Component Analysis.

Table 6.9- Component Matrix for Environmental Dynamism

	Component
	1
The products/service in our industry updates quickly. (ED1)	.777
The actions of competitors are difficult to predict. (ED2)	.830
The technology in our industry progresses quickly. (ED3)	.760
To predict change of customer needs is difficult. (ED4)	.750
Eigenvalues	2.432
% of Variance	60.796
Cumulative %	60.796
Cronbach's Alpha	.784

Extraction Method: Principal Component Analysis.



6.12. Principal Component Analysis of the Competitive Advantage

In order to measure reliability coefficient and to obtain the competitive advantage factor structure, principle component analysis was employed on the 4 items. As a result (Table 6.10.) we saw that Kaiser (1974) recommends a bare minimum of 0.5 and that values between 0.5 and 0.7 are mediocre, values between 0.7 and 0.8 are good, values between 0.8 and 0.9 are great and values above 0.9 are high (Hutcheson and Sofroniou, 1999). For these data the value is 0.80, which falls into the range of being good, so we should be confident that the sample size is adequate for factor analysis. Further analysis also gave the same factor structure for the scale and total variance explained by the factor was 73.142 with the Eigen value 2.926.

Table 6.10- Reliability and Validity for Competitive Advantage

KMO and Bartlett's Test for CA		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.805
Bartlett's Test of Sphericity	Approx. Chi-Square	524.513
	df	6
	Sig.	.000

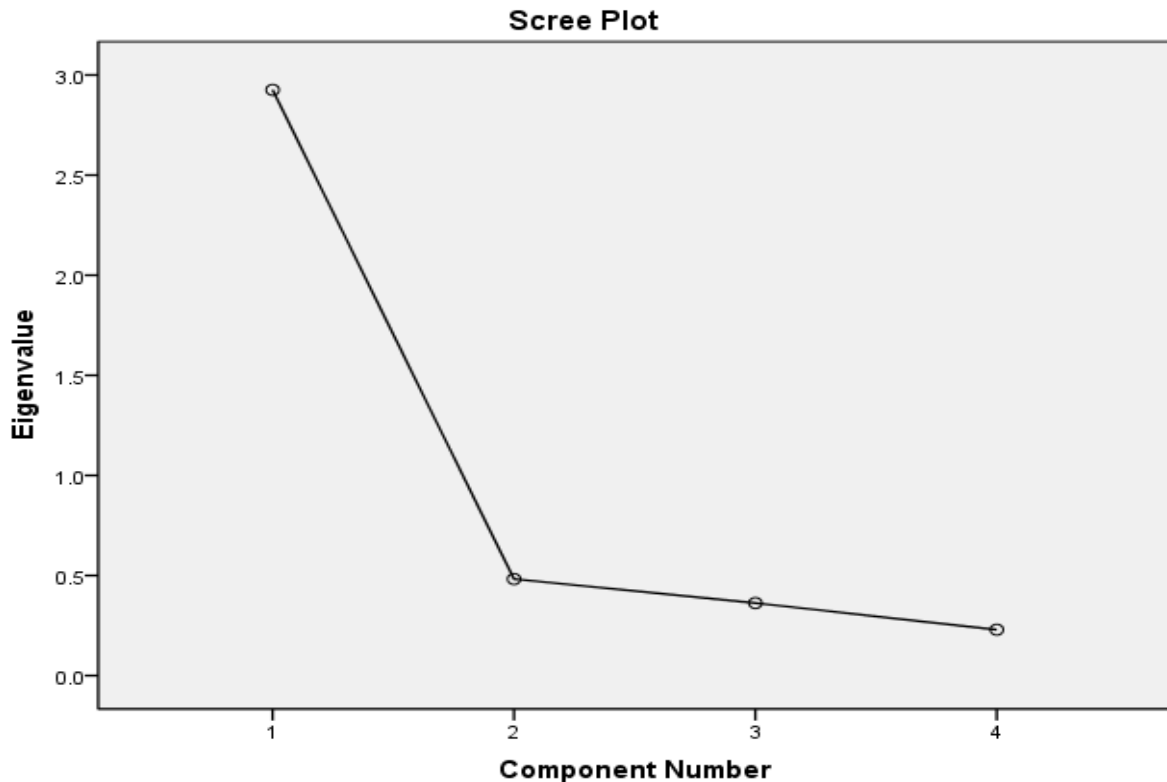
Table 6.11 -Total Variance Explained for Competitive advantage

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.926	73.142	73.142	2.926	73.142	73.142
2	.482	12.062	85.203			
3	.362	9.060	94.263			
4	.229	5.737	100.000			

Extraction Method: Principal Component Analysis

Table 6.12- Component Matrix and Scree plot for competitive advantage

Component Matrix^a	
	Component
	1
The market share of the firm is above average (CA1)	.812
The growth of market share is above average (CA2)	.851
The overall competitive position of firm is very high (CA3)	.894
The growth in return on investment is above average (CA4)	.861
Eigenvalues	2.926
% of Variance	73.142
Cumulative %	73.142
Cronbach's Alpha	.876
Extraction Method: Principal Component Analysis.	
a. 1 components extracted.	



6.13. Correlation Analyses for the Constructs

The way to examine the correlation between variables, is by producing the *R-matrix* (*correlation matrix*) for all variables that aim to capture the same construct and visually scan for ‘many’ of correlations that are below 0.3, which however is a very subjective approach (Field, 2009: 648). Taking into account the subjectivity of this approach, which was increased with the many items that were used for the all constructs, no action was taken to delete any items for any constructs. Even though the correlation matrix was produced and the general view was that each item correlated highly to at least a few of the other items, there were cases of items having limited correlations. The correlations have been done after deleting the items after conducting factor analysis. Appendix C contains the results of correlation analysis among the variables for the research.

6.14. Summary of Conducted Validity Tests

As discussed in chapter 4, validity of an instrument should be tested through different methods. The approach used to test validity and reliability was the one suggested by Venkatraman and

Grant (1986). Specifically, the components tested were content validity, internal consistency, reliability, convergent and discriminant validity and nomological validity.

In specific, *content validity* was achieved during the design process of the instrument by adopting the variables from other academic studies as it was expected that the already tested measures would have higher validity. As next step, scholars considered as experts in the field of strategy and entrepreneurship were approached with a questionnaire and their suggestions were taken into account.

Internal consistency according to Venkatraman and Grant (1986) includes both *uni-dimensionality* and *reliability*. The uni-dimensionality was checked with the exploratory factor analysis making sure that each item reflects one specific construct. On the other hand, reliability was checked for each factor by utilizing the widely used coefficient of alpha (Cronbach's α). Internal consistency measures are presented in earlier sections.

Moreover, *convergent validity* was checked by looking at the correlations among variables within the same factor and also the correlation of each variable with the total of the items in the factor (Venkatraman and Grant, 1986). The results were satisfactory indicating that there is high convergent validity for both constructs.

Running correlations between the different latent variables created, tested *discriminant validity*. Inter-correlation values less than 0.60 suggest discriminant validity (Gaur et al., 2011: 1768). All correlations were less than the recommended value of 0.60 (Appendix C) except from the sub items of EO and the sub items of DC.

Finally, *nomological validity* that assesses the “degree that the summated scale makes accurate predictions of other concepts” (Hair et al., 2006: 138) has been indirectly examined in the following chapter. This was achieved by checking the extent to which predictions from the formal theoretical model, including the latent variable in investigation, are confirmed

6.15 Concluding Remarks

This chapter has provided the results and analysis of the various factors that resulted from the principal component analysis method. This was applied in order to identify the underlying structure of the questions used to capture the two main constructs (i.e. 14 for dynamic capability and 9 for entrepreneurial orientation). The method extracted three factors for the dynamic capability and three factors for entrepreneurial orientation.

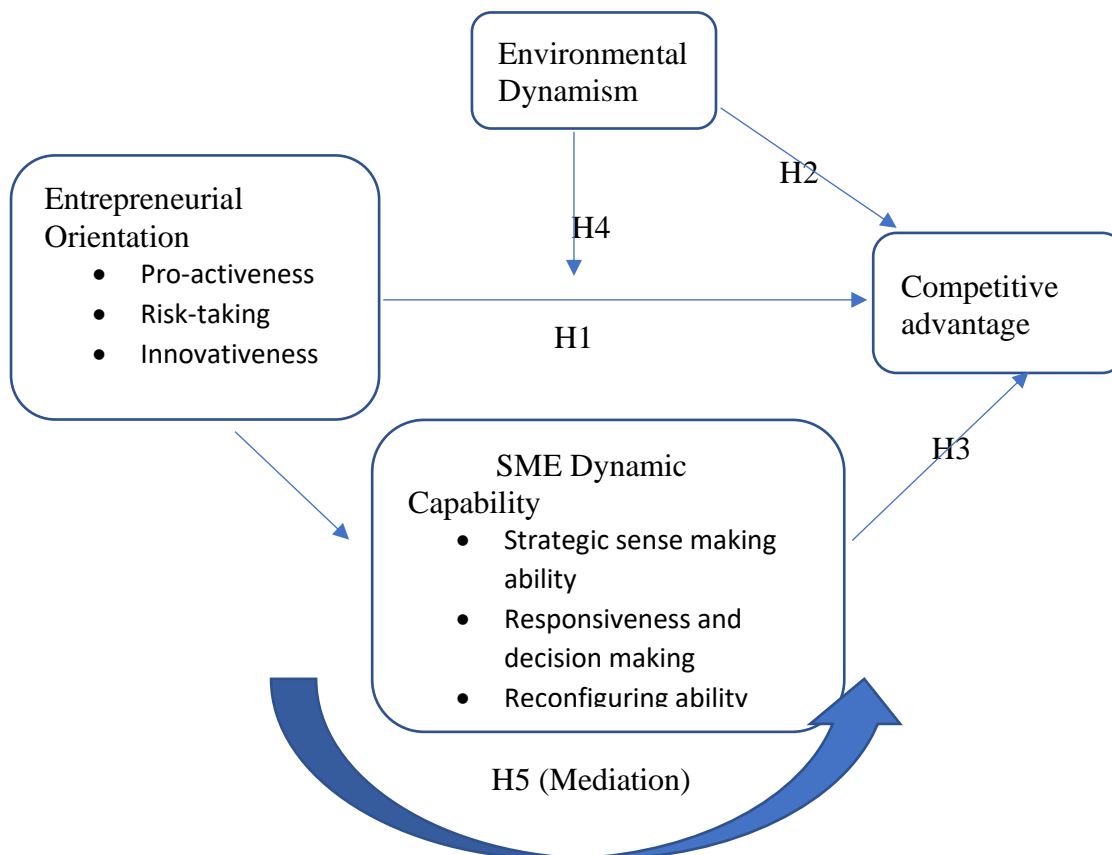
In addition, the validity and reliability of the scales used was tested in the chapter and the summated scales that will be used in the further statistical analysis of the following chapter were created.

Chapter 7
Hypothesis testing and
Discussion

7.1 Introduction

In order to assess the conceptualized theoretical model and test the hypothesis stated in Chapter 3, the researcher uses regression as method of analysis. Regression analysis is a statistical tool used to test and identify linear relationships between independent and dependent variables (Pallant, 2011). In this study, regression analysis of the theoretical model shown in Figure 7.1 is divided into five steps. Each handle a specific part of the model in which the relationships between independent and dependent variables may exist. Although structural equation modelling (SEM) can be used to perform regression analysis for the whole model at once, it requires much larger datasets in order to obtain accurate results. Hence, the researcher decided to adopt the multiple linear regression technique for the first 3 sets of hypothesis with direct effects and the SEM for the indirect effects which better fits the data size for this research.

Figure 7.1- conceptual model with hypotheses



HYPOTHESIS

H1- Entrepreneurial Orientation has a positive effect on competitive advantage

- 1.1 H1a: Pro-activeness has positive effect on firms' competitive advantage
- 1.2 H1b: Risk -taking ability of firms has a positive effect on firms' competitive advantage
- 1.3 H1c: Firm Innovativeness has a positive effect on firms' competitive advantage

H2: Environmental dynamism has a negative effect on competitive advantage.

H3: Dynamic capabilities have positive effect on firm performance.

H 3.1: Strategic Sense making ability has positive effect on SMEs' growth.

H 3.2: Responsiveness and decision-making ability has positive effect on firms' competitive advantage.

H 3.3: Reconfiguring ability has positive effect on firms' competitive advantage

H4: Environmental dynamism moderates the relationship between entrepreneurial orientation and competitive advantage.

H5: Dynamic capabilities mediates the relationship between Entrepreneurial Orientation and competitive advantage.

There are two main types of regression analysis: simple and multiple regression (Pallant, 2011). The former is adopted when one independent variable is used to predict the dependent variable, while the latter is chosen when there more than one independent variable are used to predict the dependent variable (Pallant, 2011). This study's hypothesis includes a number of variables (factors) to predict the dependent variable (competitive advantage), as explained in the following sections. First, it is hypothesized that each of the three sub-dimensions of entrepreneurial orientation and dynamic capability positively affect a firm's competitive advantage. In such cases, multiple linear regression is used to analyze the relationships.

In the case of this research, it is empirically tested that the independent variables (entrepreneurial orientation – Pro-activeness, Risk – taking ability and Innovativeness and in the second regression equation dynamic capability- Strategic sense making, responsiveness and decision making and reconfiguring ability) are significant, regardless of the firm's size or age (the control variables in this study). In such cases, the regression analysis will regress the control variables on the dependent variables and then regress the independent variables and

control variables on the dependent variable. The results will help to understand if adding the independent variables to the analysis will provide a significant improvement in predicting the dependent variable.

7.2 Regression Assumption- Normality

Normality can be defined as “the shape of the data distribution for an individual metric variable and its correspondence to the normal distribution, the benchmark for statistical methods” (Hair *et al.*, 2010, p. 71). Normality is one of three assumptions for multivariate analysis. Regression assumes normality between the variables under analysis (Hair *et al.*, 2010). Previous studies on innovation demonstrated highly skewed data and departure from normality in innovation performance measures (Laursen & Salter, 2006; Kirner *et al.*, 2009). Table 7.1 presents the normality coefficient (i.e. skewness and kurtosis), non-multicollinearity (VIF) and reliability (i.e. Cronbach’s Alpha) values. Skewness and Kurtosis values indicate that the spread of data is just about to be normal. Variance Inflation Factor (VIF) is found less than 10 which indicates that data is free from multi-collinearity.

Table 7.1: Normality, Reliability and Non-multicollinearity Coefficients

N: 248	Skewness		Kurtosis		Cronbach alpha	VIF
	Statistic	Std.Error	Statistic	Std.Error		
Scale						
Gender	-1.894	.155	1.602	.308		
Age	.484	.155	.203	.308		
Work Experience	.434	.155	.469	.308		
Respondent Relationship	1.055	.155	-.341	.308		
Education	1.148	.155	3.096	.308		
Firm Size	1.082	.155	.581	.308		
Firm Age	1.067	.155	.555	.308		
Firm type	.235	.155	-.723	.308		
EOP XXXX	.259	.155	.246	.308	.795	1.608
EOR XXX	.174	.155	-.124	.308	.703	1.494
EOI	.366	.155	.571	.308	.754	1.591
EO	.307	.155	-.141	.308	.838	1.000
DCSS	-.967	.155	2.956	.308	.707	1.058
DCRD	.079	.155	.606	.308	.722	1.023
DCRC	-1.103	.155	.295	.308	.732	1.042
DC	-.224	.155	1.581	.308	.736	1.043
ED	-.196	.155	.388	.308	.776	1.000
CA	.048	.155	.069	.308	.805	

7.3. Regression between dimensions of Firms' Entrepreneurial Orientation and competitive advantage.

The first step of the analysis focuses on the impact of Entrepreneurial Orientation and its dimensions of firm's entrepreneurial Orientation on its competitive advantage. As explained previously, this study views entrepreneurial orientation as comprised of dimensions of pro-activeness, innovativeness and risk-taking capacity. Therefore, in this step of the regression, the individual effect of sub- dimensions of EO as well as the combined effect of EO on competitive advantage are tested by using multiple regression.

H1- Entrepreneurial Orientation has a positive effect on competitive advantage

1.4 H1a: Pro-activeness as a trait of firms has positive effect on firms' competitive advantage

1.5 H1b: Risk -taking ability of firms has a positive effect on firms' competitive advantage

1.6 H1c: Firm Innovativeness has a positive effect on firms' competitive advantage

Objective 1 of the thesis is to analyse the predictive function of Entrepreneurial Orientation (EO) towards competitive advantage (CA). In order to investigate the at bottom level, factors level contribution also measured from independent to dependent variable. The same is done in Table 7.2.1 which mentions results of Simple Regression Analysis (IF: Factors entrepreneurial Orientation, DV: competitive advantage)

The first table of interest is the **Model Summary** table. This table provides the *R*, *R*², adjusted *R*², and the standard error of the estimate, which can be used to determine how well a regression model fits the data:

The "**R**" column represents the value of *R*, the *multiple correlation coefficient*. *R* can be considered to be one measure of the quality of the prediction of the dependent variable; in this case, Competitive Advantage. A value of 0.587, in this example, indicates a good level of prediction. The "**R Square**" column represents the *R*² value (also called the coefficient of determination), which is the proportion of variance in the dependent variable that can be explained by the independent variables (technically, it is the proportion of variation accounted for by the regression model above and beyond the mean model). It can be seen from our value of 0.344 that our independent variable explains 34.4% of the variability of our dependent variable, Competitive Advantage.

Table 7.2.1- Model summary of regression Simple Regression Analysis (IF: Factors entrepreneurial Orientation, DV: competitive advantage)

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.587 ^a	.344	.342	.553
a. Predictors: (Constant), Entrepreneurial Orientation (EO)				

From the above table, no 7.2.1 it can be seen that EO have significant positive influence (R^2 .344, .587, 11.369, $p < .05$) on the Competitive advantage.

The *F*-ratio in the ANOVA table (see below) tests whether the overall regression model is a good fit for the data. The table shows that the independent variables statistically significantly predict the dependent variable, $F(1, 246) = 129.258, p < .05$ (i.e., the regression model is a good fit of the data).

Table 7.2.2- ANOVA table of Simple Regression fit (IF: Factors entrepreneurial Orientation, DV: competitive advantage)

ANOVA ^a						
	Model	Sum of Squares	df	Mean Square	F	Sig.
1	Regression	39.501	1	39.501	129.258	.000 ^b
	Residual	75.177	246	.306		
	Total	114.677	247			
a. Dependent Variable: Competitive Advantage (CA)						
b. Predictors: (Constant), Entrepreneurial Orientation (EO)						

The general form of the equation to predict Competitive Advantage from EO s:

$$\text{Competitive Advantage} = 0.719 + (0.085 \times \text{EO})$$

This is obtained from the **Coefficients** table.

Table 7.2.3- Coefficients table

Coefficients						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.719	.223		3.227	.001
	EO	.085	.007	.587	11.369	.000
a. Dependent Variable: Competitive Advantage (CA)						

Unstandardized coefficients indicate how much the dependent variable varies with an independent variable when all other independent variables are held constant. The unstandardized coefficient,

Results of multiple regression are presented in **Table 7.3** stated that demographic variables explain only 2 percent contribution towards the dependent variable. Then we added the Pro-

activeness dimension of Entrepreneurial Orientation (EOP) in the second step with model 1, this addition increased contribution increased by 31.8 percent ($p < .05$). Subsequently, we have added the Risk-taking ability dimension of Entrepreneurial Orientation (EOR) into the 3rd step but it has not increased the contribution and p-value was also $p > .05$. In the last step after the addition of Innovativeness as the third dimension of Entrepreneurial Orientation (EOI) into the 4th step, the predictive function of model toward the dependent shoot up to 42.4 percent with $p < .05$ value. Thus, hypotheses H1a and H1c have been supported for the present study, but H1b has not been supported with empirically proved analysis.

Table 7.3: Results of Forward Multiple Regression Analysis (IF: Factors Entrepreneurial Orientation, DV: competitive advantage

	Predictors	Step 1	Step 2	Step 3	Step 4
1.	Constant	12.386	5.385	5.034	2.666
	Gender	.008	-.301	-.334	-.262
	Age	-.503	-.679	-.679	-.632
	Work Exp	.306	.432	.413	.378
	Respondent Relation Ship	.288	.279	.254	.345
	Education	.242	-.036	-.048	.022
	Firm Size	.200	.212	.242	.190
	Firm Age	-.023	.269	.248	.279
	Firm Type	-.118	-.075	-.071	.045
2	1+ EOP		.786**	.745	.521
3.	2+EOR			.090	-.111
4.	3+EOI				.588**
	F	.946	13.808	12.504	17.554
	Sig F	.479	.000	.358	.000
	R ²	.031	.343	.345	.450
	Adjusted R ²	-.021	.318	.318	.424

From the **Model Summary**, the "**R Square**" from step 4 column represents the R^2 value (also called the coefficient of determination), which is the proportion of variance in the dependent variable that can be explained by the independent variables (technically, it is the proportion of variation accounted for by the regression model above and beyond the mean model). It can be seen from our value of 0.450 that our independent variable explains 45.0% of the variability of our dependent variable, Competitive Advantage.

The general form of the equation to predict Competitive Advantage from EOP, EOR and EOI is:

$$\text{Competitive Advantage} = 2.666 + (0.786 \times \text{EOP}) + (0.588 \times \text{EOI})$$

This is obtained from the Coefficients table.

Unstandardized coefficients indicate how much the dependent variable varies with an independent variable when all other independent variables are held constant. For example, the unstandardized coefficient, B1, for EOP is equal to 0.786. This means that for each one value of increase in EOP, there is an increase in Competitive Advantage of 0.786.

7.4. Regression of environmental dynamism on competitive advantage

H2: Environmental dynamism has a negative effect on competitive advantage.

Objective 2 of the thesis is to measure the negative effect of Environmental dynamism towards Competitive Advantage. Based on the prior literature, we were intended to investigate negative effect of Environmental Dynamism on Competitive Advantage. From the Table 7.4.1 it can be clearly seen that Environmental Dynamism (R^2 : .009, β : -.115, t : -1.816) has negative effect on Competitive Advantage but significance exists at 90% confidence level.

The first table of interest is the **Model Summary** table. This table provides the R , R^2 , adjusted R^2 , and the standard error of the estimate, which can be used to determine how well a regression model fits the data:

The "**R**" column represents the value of R , the *multiple correlation coefficient*. R can be considered to be one measure of the quality of the prediction of the dependent variable; in this case, Competitive Advantage. A value of 0.113, in this example, indicates a decent level of prediction. The "**R Square**" column represents the R^2 value (also called the coefficient of determination), which is the proportion of variance in the dependent variable that can be explained by the independent variables (technically, it is the proportion of variation accounted for by the regression model above and beyond the mean model). It can be seen from our value of 0.013 that our independent variables explain 1.3% of the variability of our dependent variable, Competitive Advantage.

7.4.1- Model summary for Regression of environmental dynamism on competitive advantage

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.113 ^a	.013	.009	.678

a. Predictors: (Constant), Environmental Dynamism

Table 7.4.2- ANOVA table for overall model fit of Regression of environmental dynamism on competitive advantage

ANOVA ^a						
	Model	Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	1.459	1	1.459	3.169	.076 ^b
	Residual	113.219	246	.460		
	Total	114.677	247			

a. Dependent Variable: Competitive Advantage (CA)
b. Predictors: (Constant), Environmental Dynamism(ED)

The general form of the equation to predict Competitive Advantage from ED is:

$$\text{Competitive Advantage} = 3.627 - (.126 \times \text{ED})$$

This is obtained from the **Coefficients** table.

Table 7.4.3- Coefficients table- Environmental dynamism –Competitive advantage relationship

Coefficients						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.627	.232		15.651	.000
	ED	-.126	.071	-.113	-1.780	.076

a. Dependent Variable: Competitive Advantage

Unstandardized coefficients indicate how much the dependent variable varies with an independent variable when all other independent variables are held constant. The unstandardized coefficient, B1, for ED is equal to -.126 (see **Coefficients** table). This means that for each one value of increase in ED, there is a decrease in Competitive Advantage of 0.126.

We can test for the statistical significance of each of the independent variables. This test whether the unstandardized (or standardized) coefficients are equal to 0 (zero) in the

population. If $p < 0.1$, we can conclude that the coefficients are statistically significantly different to 0 (zero). The t -value and corresponding p -value are located in the "t" and "Sig." columns, respectively.

7.5. Regression of dynamic capability of firms and its dimensions on competitive advantage

Following are the hypothesis relating to the third theme of research

H3: Dynamic capabilities have positive effects on competitive advantage.

H 3.1: Strategic Sense making ability has positive effect on firms' competitive advantage.

H 3.2: Rapid response ability has positive effect on firms' competitive advantage.

H 3.3: Reconfiguring ability has positive effect on firms' competitive advantage

Third objective of the study is to measure the effect of Dynamic Capabilities on Competitive Advantage. The first table of interest is the **Model Summary** table. This table provides the R , R^2 , adjusted R^2 , and the standard error of the estimate, which can be used to determine how well a regression model fits the data:

The "**R**" column represents the value of R , the *multiple correlation coefficient*. R can be considered to be one measure of the quality of the prediction of the dependent variable; in this case, Competitive Advantage. A value of 0.379, in this example, indicates a decent level of prediction. The "**R Square**" column represents the R^2 value (also called the coefficient of determination), which is the proportion of variance in the dependent variable that can be explained

by the independent variables (technically, it is the proportion of variation accounted for by the regression model above and beyond the mean model). It can be seen from our value of 0.140 that our independent variables explain 14.0% of the variability of our dependent variable, Competitive Advantage.

Table 7.5.1 Results of Simple Regression Analysis (IF: Factors Dynamic Capabilities, DV: competitive advantage)

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.379 ^a	.144	.140	.632
a. Predictors: (Constant), Dynamic Capabilities (DC)				

From the analysis and obtained results, it can be observed that Dynamic Capabilities have positive ((R^2 .144, .379, 0.632, $p < .001$)) effect on Competitive Advantages

The *F*-ratio in the **ANOVA** Table 7.5.2 (see below) tests whether the overall regression model is a good fit for the data. The table shows that the independent variables statistically significantly predict the dependent variable, $F(1, 246) = 41.374, p < .05$ (i.e., the regression model is a good fit of the data).

Table 7.5.2 -ANOVA table for Regression of dynamic capability of firms and its dimensions on competitive advantage

ANOVA ^a						
Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	16.510	1	16.510	41.374	.000 ^b
	Residual	98.167	246	.399		
	Total	114.677	247			
a. Dependent Variable: Competitive Advantage (CA)						
b. Predictors: (Constant), Dynamic Capabilities (DC)						

The general form of the equation to predict Competitive Advantage from DC is:

$$\text{Competitive Advantage} = 1.035 - (.058 \times \text{DC})$$

This is obtained from the **Coefficients** table.

Table 7.5.3- Coefficients table: Relationship between Dynamic Capabilities and Competitive advantage

Coefficients						
Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.035	.342		3.024	.003
	DC	.058	.009	.379	6.432	.000
a. Dependent Variable: Competitive Advantage (CA)						

Unstandardized coefficients indicate how much the dependent variable varies with an independent variable when all other independent variables are held constant. The unstandardized coefficient, B1, for DC is equal to .058 (see **Coefficients** table). This means

that for each one value of increase in DC, there is an increase in Competitive Advantage of 0.058.

We can test for the statistical significance of each of the independent variables. This test whether the unstandardized (or standardized) coefficients are equal to 0 (zero) in the population. If $p < 0.05$ we can conclude that the coefficients are statistically significantly different to 0 (zero). The t -value and corresponding p -value are located in the "t" and "Sig." columns, respectively.

For conducting empirical examination on the hypotheses relating to the sub-dimensions of Dynamic Capability, multiple regression was performed. Results of multiple regression were presented in Table 7.4. In the first step, only control variables were considered and their significance effects on Competitive Advantage were recorded. It is stated that demographic variables explain only 2 percent contribution towards the dependent variable. Then, Strategic Sensing Ability was added as a first dimension of Dynamic Capability in the second step with model 1, this addition increased contribution increased by 6.7 percent: ($p < .05$). Subsequently, Responsiveness and decision making were added into the 3rd step. This addition was also found significant with the contribution up to 12.3; ($p > .05$). In the last step, after the addition of Reconfiguring ability into the 4th step, the predictive function of model toward the dependent variable increased up to 14.4 percent with ($p < .05$). Thus, hypotheses H3.1, H3.2 and H3.3 have been supported for the present study.

Table 7.6- Results of Forward Regression Analysis (IF: Factors Dynamic Capabilities, DV: competitive advantage

	Predictors	Step 1	Step 2	Step 3	Step 4
1.	Constant	12.386	8.090	5.563	3.958
	Gender	.008	.190	-.080	-.103
	Age	-.503	-.360	-.424	-.506
	Work Exp	.306	.041	.047	.092
	Respondent Relation Ship	.288	.363	.416	.377
	Education	.242	.210	.222	.155
	Firm Size	.200	.127	.166	.150
	Firm Age	-.023	-.054	-.099	-.085
	Firm Type	-.118	-.176	-.192	-.158
2	1+ DCSS		.329**	.227	.177
3.	2+DCRDM			.406**	.370
4.	3+DCRC				.208**
	F	.946	2.975	4.471	4.778
	Sift	.479	.002	.000	.000

	R ²	.031	.101	.159	.182
	Adjusted R ²	-.022	.067	.123	.144

From the **Model Summary**, the "**R Square**" from step 4 column represents the *R*² value (also called the coefficient of determination), which is the proportion of variance in the dependent variable that can be explained by the independent variables (technically, it is the proportion of variation accounted for by the regression model above and beyond the mean model). It can be seen from our value of 0.182 that our independent variable explains 18.2% of the variability of our dependent variable, Competitive Advantage.

The general form of the equation to predict Competitive Advantage from DCSS, DCRDM and DCRC is:

$$\text{Competitive Advantage} = 3.958 + (0.329 \times \text{DCSS}) + (0.406 \times \text{DCRDM}) + (0.208 \times \text{DCRC})$$

This is obtained from the Coefficients table.

Unstandardized coefficients indicate how much the dependent variable varies with an independent variable when all other independent variables are held constant. For example, the unstandardized coefficient, B1, for DCCS is equal to 0.329. This means that for each one value of increase in DCCS, there is an increase in Competitive Advantage of 0.329.

7.6. Structural Equation Modeling

Structural Equation Modeling effectively accesses the relationships between observed and latent factors, and the strength of relationships amongst them. Using the values of fit indices, researchers can compare competing theoretical models and reject alternative models. For the analyses, diagrams are developed in AMOS using a number of conventions. Latent variables are represented by circles or ovals, and observed variables are represented by rectangles. There are two types of latent variables: exogenous latent variables which are similar to independent variables, and endogenous latent variables which are synonymous with dependent variables and are directly or indirectly influenced by the exogenous variables in the model. One-way arrows are used to show

direct effects and curved two-way arrows represent covariance or correlation between two constructs. Finally, error terms (e) for the measured variables (measurement error) are represented in lowercase and residual or disturbance terms (D), for representing errors in the prediction of endogenous latent variable from exogenous latent variables, are shown in

uppercase. To specify an over identified model, the paths from the error terms (e) to the measured variables and the paths from the residual term to the latent variables are fixed to 1.0, and for every latent construct, one of the paths (usually the scale with the highest reliability, close to 1.0) from the latent construct to the indicators for that construct is also fixed to 1.0 (Chan *et al.*, 2007). In this research, Structured Equation Modelling is employed as a tool for assessing overall model fit, construct validity and testing the hypotheses related to moderation and mediation effects.

7.6.1 Construct validity

Validity is the measure of the accuracy of an instrument used in a study. Procedures of structural equation modeling are also used to compute the reliability and validity of estimated latent constructs (Chan *et al.*, 2007). Construct validity seeks agreement between a theoretical concept and a specific measuring procedure. It establishes relationships between latent (unobserved) variables and multiple observable items. All the variables were arrived at after an extensive literature review and synthesis, which translated into conceptual and operational definitions. One way to check construct validity is to determine convergent validity which is the actual general agreement among ratings, gathered independently of one another, where measures should be theoretically related. Convergent validity was checked by ensuring all average variance extracted values greater than 0.5 (Anderson and Gerbing, 1988; Fornell and Larcker, 1981). Further, convergent validity was checked by ensuring all average variance extracted values greater than 0.5 (Anderson and Gerbing, 1988; Fornell and Larcker, 1981).

7.7 Assessing Indirect effects – Moderation of environmental dynamism(ED) on the relationship between EO and CA

H4: entrepreneurial orientation moderates the relationship between entrepreneurial orientation and competitive advantages.

Forth objective of the study was intended to measure the interacting effects of Environmental dynamism between the relation of entrepreneurial orientation and firm performance. In order to perform the moderator analysis in AMOS 23, we calculated the Z-score for (entrepreneurial orientation) and (entrepreneurial orientation * environmental dynamism entrepreneurial orientation). These Z-scores were the requirements for the further analysis by which we were

going to establish the interacting (moderation) effect of environmental dynamism between entrepreneurial orientation and competitive advantages.

Figure 7.2-Framework of moderation of environmental dynamism on the relationship between entrepreneurial orientation and competitive advantage of firms

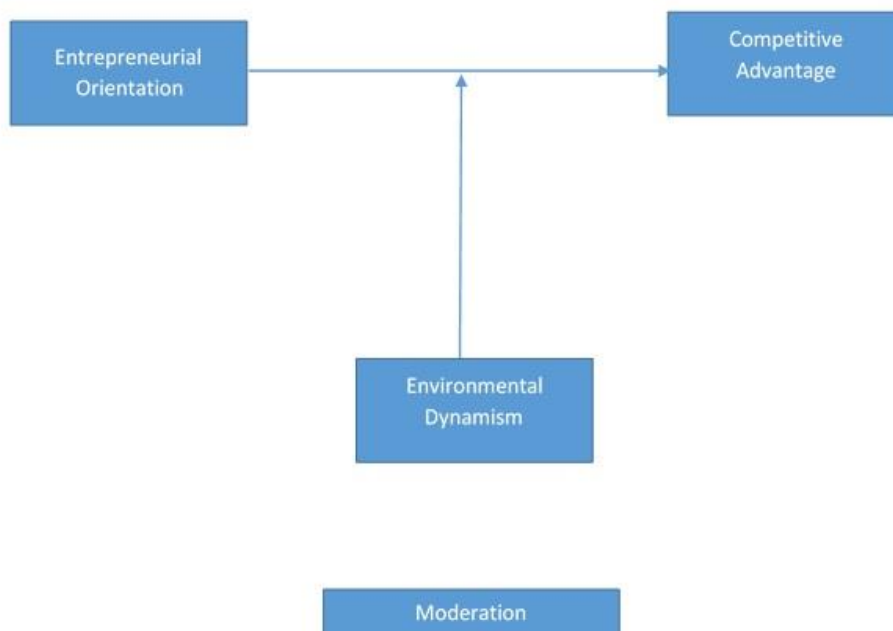
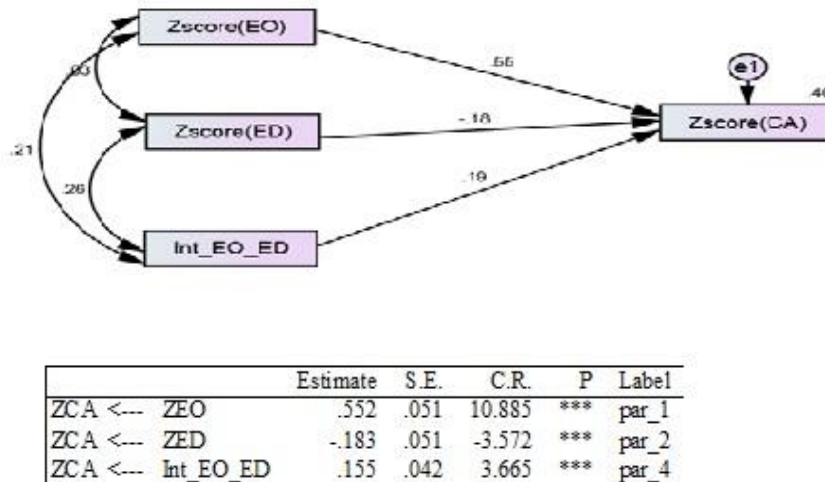


Figure 7.3- AMOS screen output and results of the moderation effects of environmental dynamism



The above figure 7.3 shows research model for moderation of ED on relationship between EO and CA. The figure also contains the table which presents the overall path model fit and all the relations among the constructs. The impact of the EO on CA ($\beta=0.51$, C. R=10.885) is significant and the impact of EO*ED on CA ($\beta=0.42$, C. R=3.665) is also significant. While we have expected to illustrate a positive significant impact of Moderator ED on the relationship between EO and CA. By referring to the above result obtained from the analysis and Figure 7.3; it can be inferred that the hypothesis of moderation is supported i.e. environmental dynamism positively moderates (significant p value at 95% significance level) the relationship between the entrepreneurial orientation and competitive advantage.

7.8. Assessing Indirect effects – Mediation of dynamic capability(DC) on the relationship between EO and CA.

H5: Dynamic capabilities mediates the relationship between entrepreneurial orientation and competitive advantages.

Fifth objective of the present thesis is to investigate the intermediate effects of Dynamic Capabilities on the relationships between Entrepreneurial Orientation and Competitive Advantages. Mediating variable considered as intermediate in a causal relationship between independent and dependent variable. A series of steps were used to run the mediation analysis. First, the direct effect of independent variable on dependent variable was calculated c (0.57). After satisfying the first condition of the analysis, we moved to the 2nd step of the analysis that is the adding of intermediate variable to investigate the indirect effect of independent variable on dependent variable via the mediating variable. After the analysis, it has been found that there is no significant mediating effect (0.891; $p > .05$) for Dynamic Capabilities between Entrepreneurial Orientation and Competitive Advantages. Hence, the analysis does not support the proposed hypothesis

Figure 7.4-Framework of Mediation of environmental dynamism on the relationship between entrepreneurial orientation and competitive advantage of firms

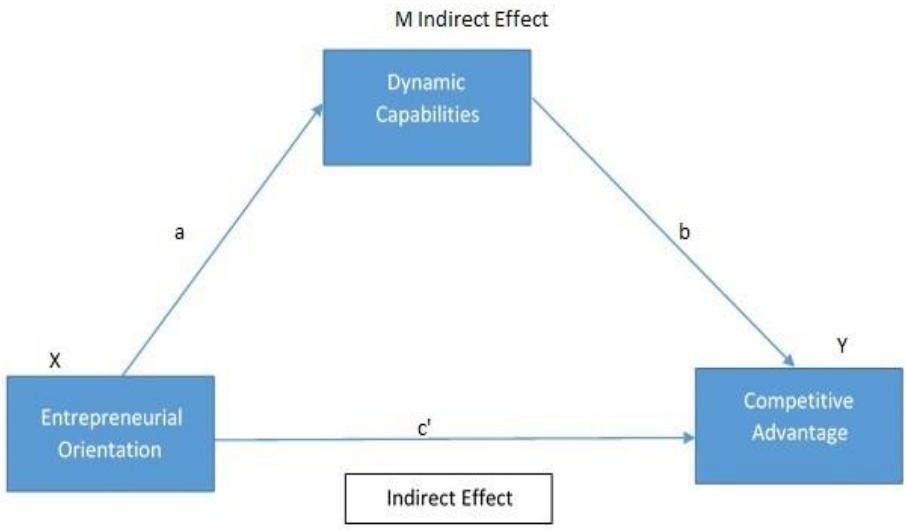
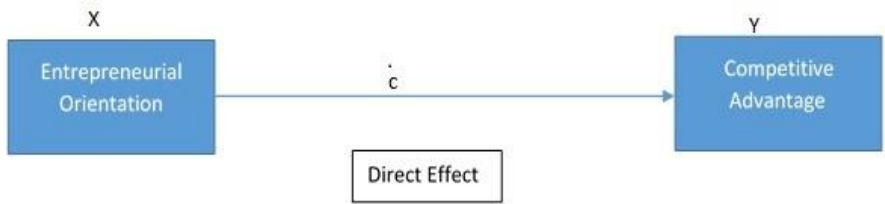
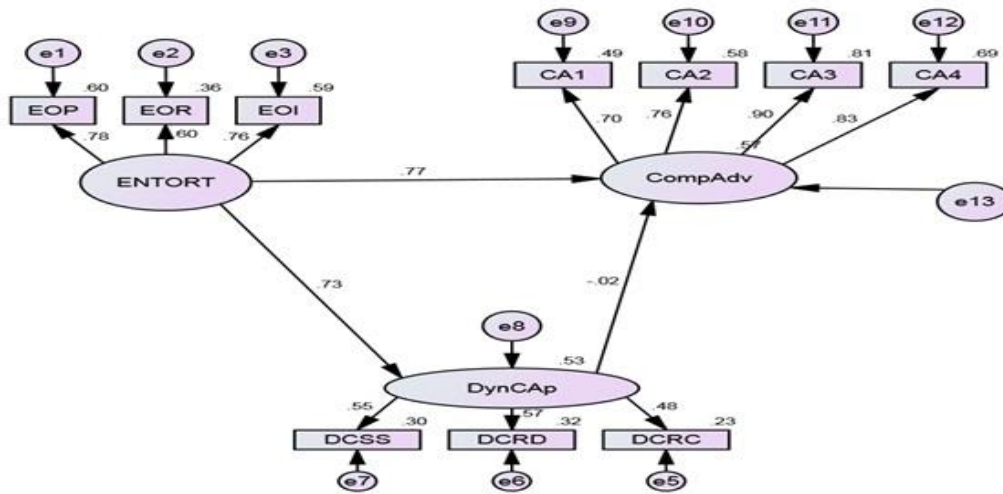


Figure 7.5 - Mediation of environmental dynamism on the relationship between entrepreneurial orientation and competitive advantage of firms



			Estimate	S.E.	C.R.	P
DynCap	<---	ENTORT	.487	.092	5.287	***
CompAdv	<---	ENTORT	.236	.045	5.191	***
CompAdv	<---	DynCap	-.009	.065	-.137	.891

7.9. Summary of Hypotheses

Table 7.7 below presents the research hypotheses and the associations drawn from the empirical examination of chapter 7. As an outline, it is stated that out of the 11 hypotheses, 9 are fully supported, two are not supported and 1 is supported with 90% confidence interval. Hence it could be inferred that even after due consideration of the limitations of research, the major part of empirical claims has been fully justified.

The first clan of hypotheses gauged the benefits that could be obtained from effective deployment of a firms' entrepreneurial *orientation*, which this research has been operationalized as process, structure and behavior of firm that is involved in making of firms' business and growth strategy.

Literature mentions that despite considerable research on the association between EO and SME competitive advantage it is still vague and not that clear to understand. Taking this into consideration and selecting a slightly different setting of SMEs in emerging economy, the empirical section of this study established that the overall unidimensional relationship is

positive by examining the magnitude of unidimensional EO. However, it has been reported that when the individual effect of each dimension of EO is assessed empirically, the risk-taking ability of firms does not report positive effect on competitive advantage.

Literature asserts that organizations like living entities are players in an open system where external influences have a role to play. The second hypothesis brought into light the aspect of environmental dynamism and its effects on competitive advantage. The hypothesis investigated direct effect and magnitude of ED on SME competitive advantage. The hypothesis was supported at 90% confidence interval. The third set of hypotheses examined the direct effects and magnitude of SME dynamic capabilities and its dimensions. Dynamic capability has been operationalized as a higher order construct comprising of three dimensions. Literature noted that despite ongoing research yet there is unconvincing account of contribution of such higher order constructs on SME performance outcomes. This research established a positive effect of dynamic capabilities including all its dimensions of strategic sensing ability, responsiveness and decision-making ability and reconfiguring ability on SME competitive advantage.

The fourth set of hypotheses discussed the indirect effect of constructs. The first hypothesis from this set reported the positive moderation effect of environmental dynamism on the relationship between entrepreneurial orientation and competitive advantage whereas the second hypothesis from this set reported that there is mediation effect of dynamic capability on the firm EO- competitive advantage relationship. Hence the hypothesis in this clan tested the interplay between Environmental Dynamism Entrepreneurial Orientation and Dynamic Capabilities.

Table 7.7- Summary of Hypotheses

Summary of accepted and rejected hypotheses as a result of regression analyses Hypothesis	Independent variable	Dependent variable	Result of hypothesis testing
1. H1	Entrepreneurial Orientation	Competitive Advantage	Supported
2. H1a	Pro-activeness	Competitive Advantage	Supported
3. H1b	Risk -taking ability	Competitive Advantage	Not supported
4. H1c	Firm Innovativeness	Competitive Advantage	Supported
5. H2	Environmental dynamism	Competitive Advantage	Supported with 90% confidence interval
6. H3	Dynamic capabilities	Competitive Advantage	Supported
7. H3a	Strategic Sensing ability	Competitive Advantage	Supported
8. H3b	Rapid response ability	Competitive Advantage	Supported
9. H3c	Reconfiguring ability	Competitive Advantage	Supported
10. H4	Moderation Analysis of the environmental dynamism on the relationship between Entrepreneurial Orientation and competitive advantage		Supported
11. H5	Mediation Analysis of dynamic capabilities on the relationship between entrepreneurial orientation and competitive advantage		Not supported
Total of number of hypotheses 11			
Total of number of accepted hypotheses 9			
Total of number of rejected hypotheses 2			

7.10. Discussions on findings from empirical testing

This part of chapter scrutinizes the empirical findings of research with respect to the themes identified in the literature review that needs attention from a scholarly lens. With this effort, it is possible to bring into light the aspects what could provide contribution to the knowledge in this area and help develop novel understanding with the objective of building academic and practice prescriptions for entrepreneurship and growth of SMEs.

The direct effect of an entrepreneurial orientation on SME growth; This empirical analysis forms the base level testing as it is one of the main premises of this research. There is the emerging gap identified in the literature review with respect to the linkages of entrepreneurial orientation to competitive advantage of small and medium firms in emerging economies. This hypothesis sets the base for our further research inquiries and in exploring the associations of this relationship with other variables proposed. The correlations analysis provided an overview of the directions of the relationship. After that the research introduced two models of Entrepreneurial Orientation. The first model considered EO as a simultaneous effect of three dimensions and the second model tested the independent effects of each dimension of EO on competitive advantage. Both magnitude as well as directions of the relationship were studied.

Hypotheses were confirmed except in unidimensional model it was revealed that the there was no effect of risk-taking ability of firm on its competitive advantage independently. It can be inferred that this is in confirmation to the claim of Lumpkin and Dess' (1996) concerning the ability of each dimension to have different effects on SME outcomes. This brings into attention the complexity of the phenomena which is being inquired. This also suggests that the relationship between EO and SME advantage may need more research for better clarity before generalizing the findings.

The influence of environmental dynamism on the competitive advantage of firms, the second literature theme tests the hypothesis that change in external environment due to rapid changes in technology, competitor's strategy, and customer preferences and other changes in other business dynamics surrounding the firm does influence its architecture and set path for competitive advantage by creating disturbances in with respect to the speed and direction of

achieving advantage. For e.g. a sudden change in industry key success factors or emerging business models in industry or shortening of product life cycles might delay a firm's response or might have cost implications which can influence the advantage gaining potential of the firm and may result in loss of market share. The findings have asserted the hypothesis with 90% confidence interval.

The character and constitution of SME dynamic capabilities, the third literature theme, scrutinizes the concept of SME dynamic capabilities. Despite the resource constrains, lack of deep pockets, unestablished formal structure and other traits belonging particularly to SMEs, the study claims that dynamic capabilities which are knowledge embedded and found inside the firm contribute to SME outcomes by creating sources for competitive advantage of firms.

The indirect effects (moderation-influence) of environmental dynamism on the entrepreneurial orientation- competitive advantage relationship; this literature theme demonstrates that environmental dynamism moderates' relationship between EO and competitive advantage. The moderation effect is positive and hence hypothesis is supported.

The indirect effects (mediation- of dynamic capabilities on the entrepreneurial orientation – competitive advantage relationship. This theme is the most important theme and forms one of the main rationales for investigating effects of entrepreneurship and dynamic capabilities for SME competitive advantage. In empirical testing of this indirect effect testing, there was no mediation effect found of dynamic capabilities on the EO-competitive advantage relationship.

This associations demonstrate that independently all variables had a statistically significant effect on competitive advantage. While ED had a positive indirect effect and dynamic capabilities being internally created knowledge-based elements failed to provide any significant interaction role which demonstrated that they are still in the latent form not activated with mediation. However directly they show significant positive association with firm competitive advantage

The below paragraphs mention the details regarding these key findings.

7.11. The direct effect of EO on SME growth

The purpose of this part of chapter is to conceptually interpret the first hypothesis of the research related to the direct effect of entrepreneurial orientation. It will discuss in detail results of the empirical findings and discuss the implications for the firm.

Literature highlighted the operationalization of EO as two-fold taking a uni-dimensional as well as multidimensional view of EO. Literature also suggested to explore the alternative conceptualizations of EO construct (Covin et. al., 2006). Both the views are tested and implications of findings are discussed. Firstly, the discussion related to unidimensional testing of EO is done (H1) followed by multi-dimension hypothesis testing (H1a, H1b and H1c). As an summary, this study argues that the positive correlation ($r=.587^{**}$) between the firms entrepreneurial orientation and competitive advantage is an finding that explains that when entrepreneurial proclivities are demonstrated as clearly focused towards achievement of competitive advantage in SMEs , there is a productive coherence which proactively pursues activities and initiatives relating to business expansion, manifest their ambition to undertake risks and engage in innovative activities for their aspirations related to creating or sustaining an advantageous position vis a vis market competitors. The first aspect of examination considered EO as an aggregated construct whereby the all three of its dimensions endorse growth by being united, whereas the other aspect comprises of examining the effect of individual dimensions of EO. It was reported that the effect of individual dimensions revealed all dimensions have a positive correlation to firm competitive advantage (pro-activeness - $r=.546^{**}$, responsiveness- $r= .321^{**}$ and innovativeness - $r=.572^{**}$). These claims are now 'disintegrated' and analogized with theory in order to implicitly interpret the study's initial set of findings.

7.11.1 Entrepreneurial Orientation as Unidimensional construct

The unidimensional conceptualization of EO lays emphasis on the shared or common effect of the dimensions of EO hence in this case “EO can be understood as a sustained firm-level attribute represented by the singular quality that risk taking, innovative, and proactive behaviors share in common” (Covin & Lumpkin 2011, p: 863).

Research findings about an entrepreneurial orientation having positive SME competitive advantage as performance outcomes (Kraus et. al 2012; Wiklund and Shepherd,2005; Wiklund,

1999; Lee et al., 2001) represents a productive contribution to the domain of knowledge, given the nature of the dependent construct (SME competitive advantage), its conceptualization and operationalization. The study rather than merely confirming previous assertion, claims that such an investigation addresses the notion regarding the linkage between EO and wider domains of SME performance like competitive advantage. The latter also echoes views regarding the systematic lack of studies explicitly addressing the link between EO and SME's growth (Moreno and Casillas, 2008), which could be attributed to linkages with competitive advantage.

As the vast proportions of literature associated with 'firm outcomes' failed to convincingly delineate between SME growth SME performance and SME competitive advantage, this ambiguity has to be stressed and it can be claimed that entrepreneurial traits could productively contribute to the competitive advantage or ability to compete for SMEs.

It was claimed by Mintzberg (1979) that the prevailing objective of an entrepreneurial organization should be manifested in its growth ambitions. Growth can be reflected by surpassing competitors which is indicated by competitive advantage. This notion becomes the starting point for discussion regarding the unidimensional, statistically significant and positive relationship ($R^2=0.344$, $p<0.001$) which was revealed from the empirical examination.

The interested reader is reminded that the study embraced a broad definition of Entrepreneurship, as "processes, structures, and behaviors of firms that are characterized by innovativeness, pro-activeness and risk taking (Covin & Slevin, 1989, Miller 1983). It also considers the definition of EO as a process leading to new economic activity development (Davidson et al, 2006). This helped to conceptually adopt SME competitive advantage as the dependent variable for the study. The first hypothesis reflects the simultaneous consideration of the entrepreneurship-oriented aspects of the firm behavior (Covin, Slevin and Schultz, 2004; Lee and Pennings, 2001), influencing the competitive advantage of SMEs. This is in agreement with Lumpkin and Dess' s (1996) claim that EO, simply reflects the *operating routines within* the SME rather than the its business operations. This implies the behavior nature of the construct and it could be argued that the entrepreneurial orientation may to some extent determine competitive advantage of the SME. This finding represents the fundamental belief underpinning this research.

Based on the above findings and backed up by the literature review, it is argued that an *entrepreneurial orientation* is a viral component for competitive advantage and eventually firm

performance in small and medium enterprises. Thus, it can be inferred that the firms which are entrepreneurially oriented can indulge in more experimentation (De Clercq *et al.*, 2003) and thus broaden their horizons. The findings add to the earlier research claims that there are linkages between high growth of SMEs and firm's entrepreneurial behavior including innovativeness, proactiveness, and risk-taking behavior (Green, and Slevin 2006; Casillas, Moreno, and Barbero 2010; Covin, Madsen 2007; Wang and Altinay 2012). Taking this further in their study of small and medium sized companies in, Casillas, Moreno, and Barbero (2010) supported positive relationship between EO and growth, specifically, the positive influence of innovativeness and proactiveness on profitability (Altinay, 2016). This rhetorical findings and research opinions leads the further discussion towards evaluating the findings of the study concerning the effects of each of the individual dimension separately on SME competitive advantage.

7.11.2. EO as a multidimensional solution

Covin and Lumpkin (2011) advocated that in-order to advance the EO research and generate base level insights, EO research has to consider the multidimensional aspects of the construct where these dimensions can independently vary and has differential effects on the considered outcome variable. Covin and Wales (2012) claimed that while EO represents an aggregated construct and all organizations fall along a range extending from conservative (low) to entrepreneurial (high), and this depends on the absence or presence of dimensions of EO within a multi-dimensional framework. This transition of mindset of considering EO from just unidimensional to varying effects of multidimensional EO is important as it will help to understand how EO contributes to broader performance outcomes. This is consistent with the findings of this research for the EO – competitive advantage relationship.

As evident in Table 7.3 in the above paragraphs it is clear that the R² value when EO is considered as a multidimensional construct is 0.45 which is higher than the R² value when EO was considered as a unidimensional solution (0.342). Also, it can be seen that while the regression coefficient *r* values are highest and significant for pro-activeness dimension (0.786**) and significant for Innovativeness dimension (0.588**) however the beta values in case of risk taking ability are low and not significant (0.090). This finding contradicts previous assertions that EO is best measured in a uni-dimensional solution, with dimensions relating to performance in a similar manner (Covin and Slevin, 1989; Knight, 1997). Hence, considering

the conceptual base of literature review and the dimensionality debates, this research argues that the phenomenon's multidimensional disposition inherently reflects the decision-making properties of EO. Hence, considering the conceptual base of literature review and the dimensionality debates, this research argues that the phenomenon's multidimensional disposition inherently reflects the decision-making properties of EO.

This finding is consistent with Lyon, Lumpkin and Dess' (2000) assertion that an organization can illustrate high levels on one or more dimensions and lower levels on others. This is also supported from Lumpkin and Dess' s (1996) views that EO dimensions may vary independently. An implication could be drawn that considering the context of a niche research and for better understanding of phenomena and its findings, it is prudent to give weightage to EO as a construct decomposed into individual dimensions with differential effects.

Assessing the impact of Pro-activeness ($r=0.546^{**}$, $\beta=0.786^{**}$ ($p<0.01$)) demonstrates pro-activeness as a dimension has a positive and strongest effect on SME competitive advantage. With resource constraints and quest of survival and success, it is pro-activeness which will motivate the SME firms towards new products and services new products and services (Miller and Friesen, 1983). This research claims that it represents the firm's trait or belief to engage in market leading initiatives and conviction to lead. This attribute is vital for the SMEs growth and to keep up the momentum for growth. This argument is fundamental for unlocking SME growth as the scope of SME growth opportunities may or may not be related to the current like of operations (Venkatraman' s (1989:949). This is particularly important for small organizations as a source of renewal: indicating the process aspect of moving favorably within the business environment and taking initiatives to anticipate and act first to pursue an opportunity (Lumpkin and Dess, 2001; Stevenson and Jarillo, 1990). To run a successful entrepreneurial show in the interconnected, complex and fast-moving product market domain, it is imperative for SME firms to exhibit pro-active disposition. This is supported by the research's empirical result. Risk taking ability ($r=0.321^*$, $\beta=0.090$, $p<0.001$) is considered as central to "being entrepreneurial. According to Schumpeter's (1934) considers entrepreneur one who is 'measuring' risks whereas in entrepreneurial orientation literature, risk-taking is understood as the capacity of the firm to take calculated risks (Morris and Trotter, 1990; Pinchot, 1985). Barrett and Weinstein (1998:59) claimed that "high risk projects leave too much to chance and low risk projects do not provide the needed challenge". Small-firm managers have differing risk-taking conduct and likewise varied perception of affordable loss,

which effects their entrepreneurial choices (Dew et al., 2009). Risk is inherent in implementation of any strategic actions, as for entrepreneurial decision-making potential loss is an important variable in the event of any failure (Miller, 2007).

Lechner and Gudmundsson, 2014 discussed that risk-taking has been promoted as one of the characteristics of entrepreneurs, however research on cognitive dimensions has demonstrated that there is not much difference in the risk taking attitude of entrepreneurs and non-entrepreneurs. Optimism and over-confidence can change perception of risk while risk-taking remains unaffected (Radcliffe and Klein, 2002). Risk taking comprises the willingness to commit significant resources to opportunities which has a rational chance of high cost failure (Lumpkin and Dess 1996; Miller and Friesen 1983).and highly uncertain outcomes (Zahra & Garvis, 2000). It concerns with relates undertaking daring actions that require significant resource commitments exclusive of any guarantee of a favourable return (Kraus et al., 2012; Lumpkin & Dess, 1996). Due to this factor SME owners might avoid taking bold steps and doing heavy investments especially when the environment is uncertain, the outcomes are not predictable, the degree of formality among the ecosystems participants is low making data and information availability less and inaccurate. In such cases risk taking ability on its own might not have positive effect on competitive advantage.

Most research however concur on positive relationship between risk taking ability and firm performance outcomes. This research contends that such claims may be inherently truthful when the dimension under scrutiny is restricted in the associations between risk-taking and only quantitative tangible financial outcomes where such a bold and aggressive pursuit may result into profitable outcomes. When the dependent variable consists of outcomes like competitive advantage which is related to attempts for firm growth which could be even at a cost of short-term profits of revenues and may not be based only on financial interest. This exposes the firm's traditional path dependent processes and operating routines under risk. Decisions which involves heavy resources commitments with a view to augment firm's capacity to compete may generate good returns but may risk long term financial sustainability. Despite these claims and discussions, the empirical finding in this research failed to illustrate a statistically significant relationship of any kind regarding the dimension of risk-taking and SME competitive advantage.

Innovativeness ($r=0.0.572^{**}$, $\beta=0.588$; $p<0.001$) Innovativeness refers to a tendency to foster novel ideas, experimentation, and use of creative processes (Chandra et al, 2009; Kropp et al., 2006). It characterizes SME's capacity to contain creativity with the introduction of new products and services, business models and technological sophistication backed by research and development (Miller and Friesen, 1983). The empirical findings of this research result are consistent with the literature review of previous researches which re-confirms and signifies its importance in the entrepreneurial processes of the firm (Lumpkin and Dess, 1996; Kanter, 1982), It reinforces the direct linkage with firm performance outcomes (Rauch and Frese, 2000, Patel et.al, 2015, Utsch and Rauch, 2000, Wiklund, 1998)

With regards to innovativeness and competitive advantage, it is demonstrated that with creativity being at the base of innovation, innovativeness enables the firm continuously improve its existing operations and routines in response to the market changes. It also changes the existing practices and assumptions under which the processes of firm functions which could lead to novelty in products, services technologies and models which in term can give either cost or/and differentiation competitive advantage to the firm .Conclusively, the study's conceptualization of the phenomena of “entrepreneurship” and “entrepreneurialness“ within the SME firms, emphasizing the different aspects of *entrepreneurial orientation* construct, provides uncontested contributions not only for defining the direct effects of pro-activeness, risk-taking and innovativeness but also for signifying that indeed EO can occur in different configurations (Lumpkin and Dess, 2001; Covin *et al*, 2006), representing different aspects of the multidimensional facets of the construct (George, 2006). Taking into account the fact that the study is permitted in terms of context and thus, generalizations should be treated with caution, for the Greek context, it is argued that direct associations between EO and SME growth explicitly illustrate the influence of a proactive behaviour that pre-determines the vision of the business and translates this into action. Based on the above, enterprising units attempting to achieve their growth objectives should acknowledge (envisage) the course of action that is required for enhancing market and sales potential respectively.

7.12 The direct effect of Environmental Dynamism on competitive advantage

This sub part of chapter will discuss the hypothesis related to the effect of environmental dynamism on competitive advantage of firms. This research assesses the direct effect of environmental dynamism on competitive advantage. Environmental dynamism(ED) is operationalized as degree of instability or turbulence of such components in the firms'

ecosystem as industry and market settings, and including technological, social, political and economic forces (Dess and Beard, 1984). It is hypothesized that environmental dynamism destabilizes the equilibrium conditions thus straining resources and processes of the firm which are deployed for pursuit of competitive advantage. As a result, SMEs which are especially less equipped in resources can have an adverse impact of environmental dynamism on its competitive advantage.

The empirical findings support the hypothesis. The correlation between ED and CA is 0.11 and is not significant. R² is 0.09 and regression coefficient is -0.113 at $p < 0.1$. Thus, the hypothesis is supported at that 90% confidence interval level. The research concurs with the claims of (Henderson, Miller, & Hambrick, 2006) that high ED results in unpredictable outcomes of decision taken by firms and there could be severe consequences of wrong decision making. Based on the above discussion, it is imperative for SMEs to acknowledge the impact of ED and develop mechanisms to absorb, minimize or cope up with the adverse effect of ED on its competitive advantage.

7.13. The direct effect of Dynamic capabilities on competitive advantage of firms.

The purpose of this part of chapter is to conceptually interpret the third hypothesis of the research related to the direct effect of dynamic capabilities and its dimensions on competitive advantage of firms. It will discuss in detail results of the empirical findings and discuss the implications for the firm. The literature theme of dynamic capabilities theme has been identified, duly conceptualized, and assessed empirically to meet the objectives of study related to understanding of the phenomena of dynamic capabilities with respect to small and medium enterprises. This task was undertaken with the rationale of developing the domain of dynamic capabilities within the SME arena where literature needed to be informed as the formal discussion was missing in this area. It is high time that this debate is developed to its full potential and formalised discussion regarding sources of competitive advantage for smaller firms is more of necessity rather than innovation, acknowledging the structure and appearance of such forms of organising activity. Chapter 2 elucidated a conceptual trail sketching from the origin of the debate, acknowledging the resource-based view as an instrumental theory from the domain of strategic management and offered three distinct *dynamic capabilities*- Strategic sensing capability, Responsiveness and decision making and reconfiguring ability. Considering the abstruse character of the SMEs, the dynamism within the capabilities itself and in

conceptual justifications, this research takes a perspective beyond what is mentioned in theory about just the resource deficiencies (Barney, 1991). The research intends to bring forth a set of credible and comprehensible models especially when it is understood that this domain of research is yet not fully blossomed into a matured theory which makes this research scrutiny of beneficial. The nature, benefits and particular merits of these higher order constructs have been mentioned throughout the thesis. This part discusses the direct effect of hypothesis related to Dynamic capabilities and SME competitive advantage. In first hypothesis, dynamic capability is considered as an aggregate construct and the in the rest of hypothesis the individual effect of each of the operationalised dynamic capability on competitive advantage is examined in total four hypotheses have been examined with respect to their association will SME competitive advantage.

This research considers dynamic capabilities as firm's ability to reconfigure a firm's resources and routines and its routinized ability to change its operational capabilities under environments of rapid change which helps firms sustain competitive advantage. Thus, dynamic capability with a combination of strategic sense making, responsiveness and decision making and reconfiguring ability helps the firm to refresh, renew or transforms itself in the light of rapid changes in business environment. Where the limits of operational or ordinary capabilities end for its fruition, the merits of dynamic capability begin. In short it is a capability which modifies itself according to the requirements of dynamic environments thus keeping the competitive advantage steady. The direct effects of dynamic capability on competitive advantage is significant and shows positive association with $r= 0.379^*$, $R^2=0.144$ $p<.001$). The empirical findings concur with the extensive and largely consistent findings of most the research scholars in this domain. This research supports the positive contribution of dynamic capabilities for SME firms and not only large firms. This research has tested one of the contingencies as SME context for understanding and proving the positive effects of dynamic capabilities on competitive advantage.

7.13.1 The individual effects of dynamic capability on firm competitive advantage

For the purpose of this research, dynamic capabilities have been branched into strategic sensing ability, responsiveness and decision making and reconfiguring ability. Each capability serves a distinct function and together they sense markets, seize opportunities and reconfigure the resource base of firms in such a coordination which bestows firms with ongoing competitive advantage.

Strategic sensing ability is the ability to spot, interpret and chase opportunities emanating from external environment and includes astute searching of technologies and markets alike, distant as well as far (Pavlou and El Sawy 2011, Teece 2014). The empirical findings demonstrate a positive correlation ($r=0.268^{**}$, $p<0.01$) and a significant regression (Beta= 0.329^{**} , $p<0.01$) and R2 values as 0.101. Hence both the association and predictive relationship of Strategic sensing ability on SME competitive advantage is positive and significant. Firms with higher sense making demonstrates proactive search initiatives, can interpret information better, understand external environments clearer enhancing market knowledge. All these factors lead to superior competitive advantage. The same is proved by empirical findings.

Responsiveness and Decision-making form the second column of dynamic capability. The information sensed by strategic sensing ability has to be captured well and timely in processes and systems by good decision making. For this research response to sensed opportunities by well-timed and appropriate decisions is a dynamic capability for firms and hypothesized to associate and effect positively SME firms, competitive advantage. The empirical findings support the hypothesis ($r=0.268^{**}$, $p<0.01$), regression coefficient is 0.406^{**} , $p<0.01$, and r^2 is 0.159 suggesting a positive association as well as strong predictive effect on firm competitive advantage. The findings are consistent with most scholar's view related to role played by responsiveness and decision by introducing novel changes in resource base of the firm leading to competitive advantage of the firms.

Reconfiguring ability form the third and last leg of dynamic capability construct. this research considers reconfiguring ability as the capacity to combine and recombine various resources, processes, capabilities, assets etc. for transforming the resource base of the firms in the light of changing context. The empirical finds show a significant positive association ($r=0.265^{**}$, $p<0.01$) and significant predictive effect (beta= 0.208, $R^2=0.182$, $p,0.01$) on firm competitive advantage. This research claims that reconfiguration results from churning of various components of resource configuration by which new knowledge is created resulting into novelty in terms of products, process and even business models which increase the firm's propensity and confidence to compete. There is a possibility that the sources of competitive advantage are regenerated by this capability. This research supports the assertion that economic value can be generated by reconfiguration (Galunic & Rodan, 1998) and thereby series of temporary advantages can be generated (Helfat et al., 2007) even in case of small and medium

enterprises. Thus, all the three dynamic capabilities have a positive association and significant predictive effect on competitive advantage even in case of small and medium enterprises under research consideration.

7.14. Indirect effect (Moderation) of environmental dynamism

It was empirically assessed in the direct hypothesis given above that on its own entrepreneurial orientation has a positive effect on competitive advantage whereas environmental dynamism impacts the competitive advantage negatively. This hypothesis theme combines these constructs and claims that environmental dynamism although on its own has negative effect on competitive advantage but it influences/moderates the relationship between entrepreneurial orientation and competitive advantage positively it can be inferred that the hypothesis of moderation is supported i.e. environmental dynamism positively moderates (P value significant, $p < .05$) the relationship between the entrepreneurial orientation and competitive advantage. The lack of clarity in literature about the relationship between EO and performance, and the moderating effect of environmental uncertainty triggered a need to investigate this relationship in depth in different contexts. The motivation to study this indirect hypothetical relationship stems from attending to the contingency-based EO research (Zahra and Covin 1995; Lyon, Lumpkin, and Dess 2000; Zahra and Garvis 2000; Lumpkin and Dess 2001; Stam and Elfring 2008). The claims of such research assert that the relationship between EO and firm performance effects is not homogeneous, in certain types of environments it could be either strengthened or weakened. In order to study the moderating effect of these contingencies in external environments, constructs such as market dynamism and market hostility (Covin and Slevin 1991; Zahra and Covin 1995; Lumpkin and Dess 1996) are used. The findings assert with most other researches which claim that in presence of environmental dynamism, entrepreneurially oriented firms perform better. Dynamism in environment activates the seeds of pro-activeness, innovativeness and risk taking hence these entrepreneurial traits

7.15. Indirect effect (Mediation) of dynamic capabilities

The direction and magnitude for direct effect of individual constructs of EO and DC to competitive advantage are positive and significant. The hypothesis of assessing indirect effect or interaction effect of EO and DC takes this research into a deeper inquiry of understanding the interplay between both the important and powerful constructs of strategic management and entrepreneurial orientation literature. This hypothesis tried to integrate the two constructs; entrepreneurial orientation and dynamic capabilities into a unified view.

The associations between EO and CA, ($r=0.587^{**}$, $p<0.05$) DC and CA (0.379^{**} , $p<0.05$) and EO and DC (0.458^{**} , $p<0.05$) are all significant. This demonstrates that there is a positive coherence between all the three constructs. Taking this clue further the hypothesis investigates the indirect effect or interaction effect of dynamic capabilities on the relationship between EO and CA. The empirical findings show that dynamic capabilities do not show significant mediation effects (0.891 ; $p>.05$). This implies that in case of the SME firms under this study dynamic capabilities although having direct positive effects on competitive advantage, are not instrumental in converting the “entrepreneurialness” into competitive advantage. They do not take part or interact with EO for getting competitive advantage. The findings negate the claims of Harreld et al. (2007) with respect to its maximizing the influence of EO on performance. And the findings of Wu (2007) claiming the mediation of dynamic capabilities between entrepreneurial resources and firm performance.

7.16. Summary of Discussion

This part of chapter discussed the empirical findings demonstrated by the study with the intention to interpret the findings into meaningful insight. Considering the realistic context of SME firms in emerging economy as opportunistic, risky, uncertain and unpredictable, generating competitive advantages through entrepreneurial mode is favourable for the firms. Especially where there is a possibility of adverse effects of the dynamic business environments on firms. The research demonstrated through findings that with presence of Entrepreneurial traits, the influence of environmental dynamism turns positive in its effect on competitive advantage.

Along with the entrepreneurial mode, the research found a profound role played by resource-based advantages for SMEs. The dynamic capabilities having ability to strategically sense the business, markets and environments, to respond better and with timely effective decisions and

to reconfigure the resource base when necessary are the higher order capabilities which has relevance even for SMEs. Their presence is beneficial for competitive advantage. However, their role for competitive advantage is limited to its presence on its own but not by involving itself by converting or leveraging on entrepreneurial traits for superior advantage.

This research demonstrated empirically that SMEs do not perceive that taking risk will generate any more competitive advantage i.e. their proclivity was risk averse. However, all in all their entrepreneurial traits contributed positively to the competitive advantage. Endorsing the importance of resource based logic, the findings of the thesis empirically established that the nature of dynamic capabilities is fundamental for seeding of competitive advantage bearing elements even for SME firms and also claimed that both entrepreneurial orientation and dynamic capabilities can co-exist in a united accord amidst in dynamic environments and although in this research the dynamic capabilities did not report any interaction effect with entrepreneurial orientation, however overall it can be concluded that the synergies between this trio has beneficial effects for competitive dynamics of SMEs.

Chapter 8
Conclusion, implications and
Future research
recommendations

8.1. Introduction

This last chapter of the thesis presents conclusion of the thesis titled as "Explicating the inter-relationship of Entrepreneurial Orientation, Environmental dynamism and Dynamic Capabilities on Competitive advantage of Small and Medium sized firms in an emerging economy context". This research work determined an endeavour to identify and expound the mechanism of presence and intervention of (i) the entrepreneurial orientation- representing the behaviour or attitude of firm for venturing activities, (ii) the environmental dynamism- representing the task environment trait and (iii) dynamic capabilities- representing the knowledge-based, higher order internal firm capabilities. It thereby aimed to unravel the intricacies underlying the functional links among these constructs by weaving them in the form of a holistic research model and study them within the context of distinct characteristics of SMEs in an emerging economy.

The study empirically assessed the effects- direct and indirect- and the influence of these constructs individually and as higher order constructs on the outcome of SMEs- competitive advantage. The following sub-sections of this chapter scrutinize whether the research was successful in achievement of the objectives, present the unique operationalization of the construct in terms of its dimensions, and deliberate contemporary theoretical and practical implications. By doing this, the chapter productively integrates findings in the realm of research on strategic entrepreneurship domain which represents a paradigmatically-challenged, varied, still increasingly progressive area of inquiry within the ecosystem of organizational science. Thus, this chapter of the thesis discusses the implications of the findings and provides practice prescriptions for the relevant stakeholders. The chapter concludes by critical discussion of the limitations of the research discussing its limitations and by providing recommendations for future research pursuits.

8.2. Goals and Purposes of the thesis

The intention of this thesis work was to scrutinize the inter-relationships between entrepreneurial orientation and competitive advantage of the firms, examine the influence of environmental dynamism on competitive advantage of firms, and to assess the impact and interaction of dynamic capabilities reposing inside the firms. The host for understanding these constructs and their relationships were small and medium enterprises with their unique

physiognomy. The overall theme was to understand how the SMEs' competitive advantage can be enhanced and if there is a role of combination of these constructs in this regard.

The study thoroughly researched the core of established conceptual and theoretical streams of Entrepreneurship (Entrepreneurial orientation), Dynamic capabilities (Organization) and Firm Competitive advantage (Business Strategy), and in result, developed and explored series of models to provide a framework to SMEs to build on their strengths of flexibility and adhocracy, succeed on dealing with their limitations of resource constraints with the final outcome of achieving, sustaining and enhance their competitive advantage. The research commenced with the following objectives:

- (1) To perform a comprehensive literature review to establish the unidimensional and multidimensional effects of entrepreneurial orientation on SMEs' competitive advantage
- (2) To explore the independent effect of environmental dynamism on competitive advantage and the moderating effect of environmental dynamism on relationship between entrepreneurial orientation and competitive advantage
- (3) To investigate the nature of SMEs' dynamic capabilities by assessing their direct effect on competitive advantage of firm
- (4) To detect the interaction effects of dynamic capabilities on the relationship between entrepreneurial orientation competitive advantage

Thus, the overall purpose of this thesis is to investigate how firms' competitive advantage is enhanced by combination of its entrepreneurial traits and configuration of firms' internal environment.

8.3. Dimensions of the research and key findings

For meeting the above-mentioned objectives, chapter 2 presented an in-depth, comprehensive literature review for expounding the four main literature themes- entrepreneurial orientation, environmental dynamism dynamic capabilities and competitive advantage. Entrepreneurial orientation was conceptualized in this thesis by navigating through the theoretical roots of the underlying phenomena of entrepreneurship as a multidimensional construct which reflects the processes, structures and behavior of firms which is characterized by innovativeness, pro-activeness and risk taking (Covin & Slevin, 1989, Miller 1983).

Part A of chapter 2 in this thesis discussed the history and evolution of the concept of entrepreneurship, focus of entrepreneurship research and how the unobservable phenomena of entrepreneurship is weaved in the form of an organizing construct of entrepreneurial orientation

which is considered as a strategic posture of the firms in terms of their behaviour towards being proactive, innovative and risk taker. EO was conceptualized in this thesis in terms of intention and behavioral patterns of members that performs key role in creating new Small and Medium Enterprises (SMEs) and growth of existing SMEs. The thesis further discussed the dimensionality debates of EO by conducting an in-depth literature review so that clear propositions could be drawn in the context of SME firms. The main purpose of this literature review was to better understand the impact of EO and its dimensions especially for SMEs as against the widely researched large firms. The thesis further inquired into the aspect of environmental dynamism (ED) (Chapter 2 – part 2.2.8) which included definition of ED and a review of how dynamism in environments could destabilize firms' competitive environment which can affect firms' competitive advantage and also other underlying constructs associated with the competitive advantage.

Part B of Chapter 2 introduced dynamic capabilities as internally developed SME assets. To justify this, the study presented the granular understanding of the concept, the theoretical roots, underlying formation, nature, associations with other constructs, hierarchies, emerging evidence and knowledge management of dynamic capabilities to propose three sub-dimensions to suit the attributes of SMEs. This part of the chapter also informed about SMEs as the organizing context of research inquiry, its definition with respect to Indian context, its classification and need to develop theory addressing SMEs. This part also presented a unique conceptualization of "SME dynamic capability" branching out into three sub-capabilities: strategic sensing ability, responsiveness and decision-making ability, and reconfiguring ability.

Part C of Chapter 2 introduced the phenomena of competitive advantage with reference to SMEs. It discussed the origin and evolution of the concept of competitive advantage, its links with relevant theories and other constructs, its sustainability, its sources, perceptions of SME competitive advantage, its definitions and dimensions. Following these basic theoretical foundations and grounding the same in the context of Indian SMEs, the thesis was organized to present a direction of development of a theoretical framework i.e. a conceptual model by amalgamating these literature strands in a schema that stressed the research gaps that warranted intellectual notice.

8.3.1 Literature Gaps and their linkages with themes

The first literature gap identified in this thesis was a call for attention on the relationship between EO and SMEs' competitive advantage with respect to the operationalization of EO as uni-dimensional and multidimensional construct because ambiguity was observed in the literature in terms of dimensional effects and lack of sufficient evidences on SMEs' competitive advantage as a performance outcome (since most research focused on financial firm performance as an outcome). Thus, this thesis argued that EO remained underexamined and scanty in many emerging economies such as Brazil, India and Russia (Wales et. al., 2013). This scrutiny formed the basis of hypothesis of positive effects of EO on competitive advantage and hence, further research hypotheses were laid down in this thesis. This examination was introduced aimed for better understanding how the construct is manifested in SMEs. This Literature gap is linked with the first theme of thesis which is concerned with the examination of how entrepreneurship contributes towards (small) firm competitive advantage in emerging economy. This covers examining whether EO affects as unidimensional or multidimensional mode and their relationship to competitive advantage of SME (Savlovski, L. I., & Robu, N. R. 2011, Nikiforou, A., Dencker, J. C., & Gruber, M. 2019)

- The second literature gap in this thesis leveraged on the conceptual premises of the resource-based view theory to inspect the nature of SMEs' dynamic capabilities, operationalize them in the context of SMEs and clearly report their direct effects on SMEs' competitive advantage. This aimed to provide uniquely operationalized dynamic capability components and an examination in a different context. Three dimensions of dynamic capabilities were proposed in this thesis which were strategic sense making, responsiveness and decision making and reconfiguring ability.

This literature Gap is linked to the second research theme which is examining the nature and character of dynamic capabilities. It is an attempt to bridge the gap with credible findings in the domain of emergence and effects of dynamic capabilities in SMEs. where research questions are developed aiming to 'demystify' nature and character of SME dynamic capabilities. As such, these questions navigate the research efforts towards identifying the

direct effects of dynamic capabilities on SMEs' growth as well as understanding their mechanism.

- The third literature gap in this thesis covered the effects of environmental dynamism (ED) on the relationship between EO and SMEs' competitive advantage. Literature asserted on the hypothesis that ED negatively affected competitive advantage. The hypothesis aimed to empirically assess the ambiguity in mechanism of effects of ED on the relationship with of EO and competitive advantage.

This Literature Gap is linked with the second research theme of the thesis which of this thesis which introduces environmental dynamism as a direct influencing factor for competitive advantage.

- The fourth literature research gap in this thesis was conceived when literature informed that in SME context, there was a strain created by resource limitations, rapidly changing business environments, on one hand and SME's need for growth through competitive advantage on other hand. In order to bridge this literature, gap the research in this thesis established an amalgamation of the first two aspects of inquiry into a cohesive gestalt. It was regarding the connubial relationships of dynamic capabilities and entrepreneurial orientation for SMEs' competitive advantage. This formed a unique contribution of the thesis. This amalgamation was increasingly complex and hence, the research endeavoured to understand this phenomenon by examining the mediation effects of dynamic capabilities on the relationship between entrepreneurial orientation and competitive advantage with an intention to propose a cohesive picture of the phenomena under investigation. This gap is addressed by the fourth research theme i.e. the examining the combined effect of EO and DC on competitive advantage .

Following literature review and considering the gaps identified in this thesis, a holistic research model was proposed with four constructs where two major constructs (Entrepreneurial Orientation and Dynamic Capabilities) were conceived with three sub-dimensions each. In total, seven hypotheses were proposed in this thesis from which the last two involved testing indirect effects. The fieldwork of the research in this thesis was undertaken in India- an emerging economy , embracing a respondent administered way of survey research design, which targeted at SMEs (1-100+ employees) from five industrial categories, which continued for more than five years of (registered) venturing activity with an idea to consider scholarly

recommendations concerning the effectiveness of the relationship of EO and competitive advantage with an understanding that development of dynamic capabilities needed time to growth and the fact that dynamic capabilities required time build and yield.

The key variables were identified at the literature review stage of this thesis, and prior to data collection an in-depth questionnaire development regime had been undertaken. This included a thorough instrument development with help of an expert supervisory panel, subsequent refinement and pilot testing using convenience sampling as well as in-depth interviews. In total, 248 usable responses were collected. After completion of field-based data collection, an intensive statistical analysis was undertaken in order to empirically assess the study's hypotheses. For performing the analysis, the study used the latest available software (SPSS 22- for and AMOS- for Confirmatory factor analysis and structured equation modelling) and latest computational processes, with a linear and stepwise forward regression and structured equation modelling techniques for testing indirect effects by way of moderation and mediation analysis. In the results, the major part of empirical claims was fully justified.

8.3.2. Understanding the direct relationship between Entrepreneurial Orientation and Competitive Advantage

The relationship between entrepreneurial orientation and firm performance is an established research proclamation across variety of samples and contexts. It is an uncontested literature assertion that EO has positive implications for firm performance (Zahra, 1991; Zahra & Covin, 1995, Kuivalainen et al., 2007; Madsen, 2007; Wiklund and Shepherd, 2005; Sadler-Smith et. al., 2003). Despite this inherent notion, the exact mechanism of effect of EO competitive advantages of SME in emerging economy context was yet to be illustrated with conviction as the chemistry appeared inconsistent and weak. With regards to the first stream of inquiry undertaken to empirically assess and enhance understanding of the above association, the findings demonstrated that the relationship was positive with statistically significant levels. Findings established that the magnitude of EO as multidimensional construct appeared more than its uni-dimensional manifestation.

The importance of this finding has explanations. Firstly, it emerged from the literature review in this thesis that there was a systematic lack of studies explicitly addressing the link between EO and wider domains of SME performance outcomes (Moreno and Casillas, 2008). This probably stems from the ambiguity related to the (multidimensional) nature of the construct

and scanty presence of normative EO prescriptions that would make such examination fruitful and viable. This thesis resolved this ambiguity. The statistical analyses on multidimensionality aspect of EO determined that the effect of pro-activeness and innovativeness was positive on competitive advantage whereas the risk taking negatively affected competitive advantage. This finding of varying effects of different dimensions asserted the research claims that EO is more towards being multidimensional in nature (Covin et al., 2006), rather than an aggregated trait (Covin and Wales, 2012). This justified the claim that EO is a multi-faceted behavioural trait for firms.

Secondly, this thesis reinforced the communication of notion that considering the importance of this construct for the productive conduct of SMEs, more systematic effort was needed for overtly attending the linkage between EO and ability of SME to create and sustain competitive advantage. Focus was made on operationalization and conceptualization of EO construct specifically with regard to the dependent variable of competitive advantage for SMEs because the nature of dependent variable was fundamentally different from EO-Performance assertions by a large number of scholars. A straight jacket operationalization of EO would have not been fruitful considering the nonlinear growth patterns of SMEs as organizing systems. Hence, this research demonstrated the underlying linkage which was a simply fundamental assumption. To productively materialize the finding, attention should be engaged towards scrutiny of differing modes of EO conceptualization - to empirically demonstrate the mechanism by which Entrepreneurial behavioral dimensions reverberates in the venturing proclivities of SME. This would as a consequence enrich the understanding the nuances of this complex interaction. The causal nature of this relationship can open avenues for further insightful examinations as the aperture for novel research is usually a point of causality.

Thirdly, considering that the impact of EO although positive was found relatively smaller in magnitude in the prior studies, it echoed for further investigation and implications that the relationship between EO and competitive advantage may be influenced from the interplay with other aspects external or internal to the SMEs. As asserted by few research scholars that EO-performance relationship could be indirectly affected by many variables (Wales et. al., 2011; Messersmith and Wales, 2011; Rauch et. al., 2009; Moreno and Casillas, 2008). This may serve as a base of further investigations.

In summary, SMEs as organizing entities and peculiar traits of resource constraints, informal structures and systems, lack of professionalization and attributes of flexibility and adhocracy represent a divergent and heterogeneous share of venturing activity for undertaking a research effort for analysis. The ability to compete for SMEs is formulated and shaped from factors

which are both internal and external. The entrepreneurial behavioral manifestations of the firm can positively contribute to the premium advantage it gains compared to its competitors. This message communicated from the research pursuit is explicit and convincing.

8.3.3 Understanding the influence and intervention of environmental dynamism

Literature identified that in emerging economy such as India, SMEs operated in the dynamic business environments where uncertain unpredictable change in environment destabilizes the equilibrium conditions. This further strains SMEs resources and processes that are deployed for pursuit of competitive advantage. As a result, SMEs which are especially less equipped in resources can have an adverse impact of environmental dynamism on its competitive advantage. The findings asserted the claim that environmental dynamism negatively affected competitive advantage (Henderson, Miller, & Hambrick, 2006). SMEs have to acknowledge the same and develop mechanisms to cope up with this exigency.

Literature further revealed that there was an extant need to understand the causal mechanisms of effects of EO on other variables. Also, the scholarly findings related to the moderation and intervening effects of factors between EO and performance were not well established (Lechner and Gudmundsson, 2014). The lack of clarity in literature about the relationship between EO and performance, and the moderating effect of environmental uncertainty triggered a need to investigate this relationship in depth in different contexts. The motivation to study this indirect hypothetical relationship stems from attending to the contingency-based EO research (Zahra and Covin, 1995; Lyon, Lumpkin, and Dess 2000; Zahra and Garvis, 2000; Lumpkin and Dess, 2001; Stam and Elfring, 2008). The findings in this thesis asserted with most other researches which claimed that in presence of environmental dynamism, entrepreneurially-oriented firms performed better. Dynamism in environment activated the seeds of pro-activeness, innovativeness and risk taking hence these entrepreneurial traits.

8.3.4. Understanding the nature of dynamic capabilities with respect to SME

It was inferred from the Part B – 2.4 of literature review chapter Dynamic capabilities (DC) occur steadily as an elemental characteristic of high-performing firms in strategic management research and is dominantly linked to sustainable competitive advantage. This thesis found that dynamic capability research positioned among the most fertile streams of research within the

realm field of management for the last twenty years. Strategy literature has devoted heightened importance and raised awareness for this subject, however several criticisms still exist over this theme (Albort-Morant, & Ribeiro-Soriano, 2016). As a concept stemming from the resource-based view theory, it concerns the bases of creation of wealth by a firm functioning in dynamic uncertain environments, wealth creation by the firms operating in uncertain environments, with the help of uniqueness of its processes (Teece et. al., 1997). Although there is lot of conceptual research on understanding the concept of dynamic capabilities, the empirical analysis is confined mainly on measures of firm performance, hence it has remained mainly at a shallow theory level (Newbert, 2007). Regarding this, the first theme covered in this thesis is related to the operationalization aspects of dynamic capabilities. In order to give a richer, deeper and granular perspective to the already existing conceptual fog, this thesis contended that dynamic capabilities were higher-order constructs which were internal – reposed within the firm, are knowledge-based, distinct, had supra ability to change ordinary capabilities and obtained sustainable competitive advantage for the firms. The capabilities were further branched into three sub-capabilities on the basis of role they play in terms of sensing, seizing and reconfiguring (Teece et.al, 1997, Wilden at.al, 2013). This will be discussed after covering the issue of organizing context of inquiry.

The second theme covered in this topic was related to the organizing context of inquiry because the concept was usually linked by default to established firms and had neglected the smaller organizing systems of the economy i.e. small and medium sized firms (SMEs). Largely the majority of scholarly focus remained scanty on the nature of dynamic capabilities of SMEs (Zahra et. al., 2006) and till date there has been less related and convincing research – conceptual or empirical on how dynamic capabilities are developed and deployed in SMEs. This research emphasized certain peculiar characteristics of SMEs in terms having adhocracy and flexibility, and how with this characteristics SMEs become host to dynamic capability development, typically related to SMEs. Accordingly, three distinct dynamic capabilities have been conceptualized and further assessed empirically in this thesis.

The first dynamic capability discussed in this thesis, **Strategic sense making ability** is the ability to spot, interpret and chase opportunities emanating from external environment and includes astute searching of technologies and markets alike, distant as well as far (Pavlou and El Sawy, 2011; Teece, 2014). Sensing element of dynamic capability includes dimensions of both external (i.e. environment) as well as internal (i.e. firm performance) assessment to analytically sense, filter, shape and calibrate the opportunities. The thesis asserts that SMEs

with higher sense making demonstrates proactive search initiatives, can interpret information better, understand external environments clearer enhancing market knowledge. These factors lead to superior competitive advantage which has also been proved by empirical findings in this thesis. The information sensed by strategic sensing ability has to be captured well and timely in processes and systems by good decision making.

The second dynamic capability discussed in this thesis is **Responsiveness and decision making**. It belongs to the “seizing” part of dynamic capabilities as conceptualized by Teece (1997). Seizing opportunities encompasses the appraisal of existing and emerging capabilities, and are likely investment initiatives in relevant designs and technologies that are most prospective to achieve acceptance in marketplace (O’Reilly III and Tushman, 2008; Teece, 2007). This needs a combination of two elements – responsiveness and decision-making. SMEs are able to introduce novel change in the resource base of the firm by being responsive to an emerging (market and technological) opportunities and taking time decisions related to new products, services, or processes.

The third set of dynamic capability discussed in this thesis is **Reconfiguring ability** and it is operationalized by this research “as the capacity to combine and recombine various resources, processes, capabilities, assets etc. for transforming the resource base of the firms in the light of changing context”. There is a possibility that the sources of competitive advantage are regenerated by this capability. This research supports the assertion that economic value can be generated by reconfiguration (Galunic & Rodan, 1998) and thereby, a series of temporary advantages can be generated (Helfat et. al., 2007) even in case of SMEs. Supporting these relationships, this thesis found that the three dimensions of dynamic capability had positive associations and significant predictive effects on competitive advantage in case of small and medium enterprises. These results have a meaningful conclusion that for SMEs, conceptualization and theory building on dynamic capabilities should be channelized towards finding and recognizing a set of specific higher order routines and /or processes that resonate with the nature and physiognomy of SMEs which aim to illustrate direct linkages to the firm outcome as dependent variable along with other firm-level traits catalyze or inhibit SME ability to generate and sustain competitive advantage. This research also demonstrated these pointers with assertive conviction.

8.3.5. Understanding the combined influence of EO and DC

The final phase of this research endeavor made substantial contribution by determining the combined influences and the connubial effect of EO and DC on SMEs' competitive advantage. It was revealed by theory that SMEs should chase growth opportunities that match their resource advantages (Davidsson, 2009). Accordingly, the firms intending to grow should work towards establishing resource-based advantages (Peteraf and Barney, 2003). Literature also informed that in the present EO research, the significance of internal context is advocated (Wales et. al., 2013). Considering these aspects, the research demonstrated whether dynamic capability had any indirect or intervening role to play in the relationship between entrepreneurial orientation and competitive advantage. Prior studies argued that EO creates a mind-set for acquiring or mobilizing right resources and a firm properly endowed with *dynamic capabilities* guides the evolution of a firm's resource configuration (Zott, 2003), and leads to high performance (Teece et. al., 1997; Winter, 2000). It is argued that dynamic capabilities of a firm maximize the influence of EO on performance. The nature of this investigation in this thesis suggested that in any effort towards better of contribution of entrepreneurial orientation on SME competitive advantage, the interplay with knowledge-based, unique internal firm characteristics can't be ignored.

The empirical findings in this thesis also showed that dynamic capabilities did not show significant mediation effects. This implies that in case of the SMEs, dynamic capabilities although having direct positive effects on competitive advantage, are not instrumental in converting the "entrepreneurial" into competitive advantage and they do not take part or interact with EO for getting competitive advantage. The findings in this thesis negate the claims of Harreld et. al. (2007) with respect to its maximizing the influence of EO on performance and, the findings of Wu (2007) claiming the mediation of dynamic capabilities between entrepreneurial resources and firm performance. Moreover, the conceptualizing of integrative research model enabled the examination of the direct effect, the moderating effect and the mediating effects of constructs on the dependent variable of SME competitive advantage. The direct effect of environmental dynamism on competitive advantage has been acknowledged. The effect of entrepreneurial orientation has been assessed in terms of uni-dimensional and multidimensional forms. The moderating or indirect influence environmental dynamism on the relationship between entrepreneurial orientation and competitive advantage have been measured. The effects of dynamic capabilities have been evaluated to illustrate their direct

association to SME competitive advantage and the indirect effect on the relationship between entrepreneurial orientation has been assessed and the magnitude and direction of all these relationships have been empirically assessed. Overall, it can be asserted that the present study met its research objectives with conviction.

Finally, scrutiny of the combined effect of entrepreneurial orientation as firm behavior and SME internal knowledge-based assets known as dynamic capabilities was an arduous endeavor. This opened new conceptual and empirical dimensions to better understand the complexities arising from the association of phenomena of entrepreneurship with firm level traits. The following topic deliberates on the theoretical implications arising from the research.

8.5. Implications for theory

The above sketch consisting of key research findings and further deliberation emphasized a sequence of theoretical implications that may be of relevance for the arena of entrepreneurship, strategy and strategic entrepreneurship.

Firstly, at a fundamental theoretical assumptions level, entrepreneurship is considered as a process that generated extensive economic and social effects (Carree & Thurik, 2010). This theoretical proclamation is prevalent throughout managerial inquest and scholarly focus on the phenomena of entrepreneurship being demonstrated as firm behavior has been proliferated. Thus, most research inquiries emphasized mainly on the performance outcomes' implications as main indicators of the study of this phenomenon (Covin and Slevin, 1991; Miller and Friesen, 1983).

Subsequent investigations emerging in some various sources, thoroughly attempted to portray a series of contingent inter-relationships. The most noticeable research representations constrained amongst others with respect to environmental (Zahra, 1993), contextual (Tan, 2002), size (Lumpkin and Dess, 1996), small businesses (Wiklund and Shepherd), and variables. A newer stream of empirical attention aimed to depict relationships between entrepreneurial orientation and new venture performance (Stam and Elfring, 2008), EO in family firms (Naldi et. al., 2007), entrepreneurial strategy and firm level constructs (Wiklund and Shepherd, 2003), and a configurational research on entrepreneurial orientation (Wiklund and Shepherd, 2005).

Part A of the literature of this thesis unveiled that despite although there are a few conceptual papers which intelligently discusses epistemology and the formative aspects of entrepreneurial orientation however most research focuses on EO as a unidimensional behavioral construct related to firm performance. Hence, the operationalization of EO leaves a theoretical gap.

The first theoretical implication offered is that, this thesis attempted to inform theory about the multidimensionality aspect of EO and suggested that although EO can exist as an aggregated construct, however when researched further in this thesis, it was revealed that one dimension affected the dependent variable negatively. Even then operationalizing EO as a multidimensional construct showed higher significance levels. researched the aspects of EO with competitive advantage as outcome variable.

With regards to EO literature, the research claimed that firm-level EO is rooted in the interplay of drivers at various levels.

The second theoretical implication regarding this research is concerned with the relationship between entrepreneurial orientation and wider performance dimensions of SMEs. The importance of competitive advantage as for SME indicator has been communicated throughout this thesis, with part 2.4 of chapter 2 asserting that in entrepreneurship research, emphasis on the dependent variable has been mainly financial performance and the effect of EO on competitiveness of SMEs has been ignored. SMEs' ability to compete successfully is the step towards their growth. The study believes that growth through competitive advantage would improve the market standing and valuation of SME even though it is at a cost of financial performance. With this tenet, focus on SMEs' competitive advantage as the outcome and understanding the effect of independent constructs on SMEs' competitive advantage is an attempt towards meaningful theoretical contribution in the competitive strategy literature. For the contribution to competitive strategy theories, the thesis highlights importance of competitive strategies for SMEs (Borch et. al., 1999). This research attempts to inform the related theories that the causal relationships between entrepreneurial orientation and competitive advantage would also depend on how EO is conceptualized. In terms of theoretical contribution to entrepreneurship, the research tries to contribute and expand the knowledge boundaries of the domain of entrepreneurship (Aldrich and Baker, 2000). This is an important contribution as the incompetently defined or misjudged boundaries can risk the credibility and legitimacy of entrepreneurship research (Busenitz et. al., 2003).

There is an impending attention in acquiring knowledge about how firms could be more adaptive with respect to external changes. As regards the concept and effects of external environment, there are contrary perspectives in literature concerning effect of environmental dynamism (ED) on firm performance outcomes as well as moderation of ED on the relationship between EO and DC (Lumpkin and Dess, 2001; Wiklund and Shepherd, 2005; Frank et. al., 2010; Kraus et. al., 2012). The third theoretical implication of this research is a contribution to the literature by the extending empirical findings that environmental dynamism negatively

affected competitive advantage of SMEs in emerging economy and it positively moderated the relationship between EO and CA. Theories related to firms' task environments have been a base to management research theories. Boyd et. al. (1993) claimed the role of the three important theories: population ecology theory, contingency theory and resource dependence theory who have contributed to management research. Organizational theories and strategy literature have regarded external environment as one of the key construct for understanding firm performance.

The fourth theoretical implication is with regard to the third research theme of "Dynamic Capability" of SMEs. This thesis suggested that SMEs' competitive advantage (CA) is much better understood if the causal effects between the related constructs are carefully studied. Therefore, after understanding theoretical implications of EO and CA, the thesis links other aspect of importance for SME CA. There are theoretical advances relating to the performance implications of dynamic capabilities in large firms (Di Stefano, Peteraf, & Verona, 2010; Ambrosini & Bowman, 2009; Easterby-Smith, Lyles, & Peteraf, 2009). This thesis contributed in theoretical understanding of whether this internal higher order construct demonstrates its effect for raising the competitive strength of SMEs. By providing a unique conceptualization of three branches of dynamic capabilities, the research tried to reduce the lack of agreement concerning the conceptualization of dynamic capabilities (Albort-Morant & Ribeiro-Soriano, 2016). The effect of research context on the relationship between dynamic capability and competitive advantage has been an important tenet in terms of DC theory. Some authors claimed significance of context (e.g. Teece et al., 1997, Teece, 2007) whereas others claimed that it was not important (e.g. Zahra et. al., 2006). This research included and tested additional contingency in the DC –competitive advantage relationship by considering SME context. This research contributed to the call for normative theory development by explicitly conceptualizing SME dynamic capabilities as –Strategic sense making, Responsiveness and Decision making and Reconfiguring ability. These dimensions have been conceptualized in terms of the physiognomy of SMEs. The claims of this research of dynamic capabilities being "knowledge embedded" and "internal" especially in the context of resource crunched, flexible and adhocratic SMEs are of significance to theory. Since these capabilities are developed internally, understanding the sources and triggers of this intrinsic embeddedness is a curious research question which this research hits at. The thesis argued that dynamic capabilities facilitate the creation of organizational architecture in such a way that when speed of environmental dynamism hits organization the architecture of organization absorbs it.

There were limitations as this research focussed on performance outcomes at a micro foundational research at this stage would be out of scope. However, theory should be developed to explore and investigate the fertile conditions for development of dynamic capability in SMEs. This can be productive area of examination and rich theory development.

Another idea from the dynamic capabilities point of view is the understanding of what conditions or characteristics of SME as a host, would attract dynamic capability development. This researched embraced adhocracy as SME characteristic. Making SMEs' dynamic capability as meaningful and significant will need lot of research to be fed back to the resource-based view theory. This is where the research in this thesis attempts to inform. Dynamic capabilities emanate from research-based view but SMEs are conceptualized as resource-constrained. This argument leaves a challenge and a theory credible inquiry to be undertaken back to RBV theory. A theoretical implication can be inferred as: SMEs have to cultivate dynamic capabilities that would facilitate the formation of resource-based advantages on the basis of their defining characteristics. SMEs' learning routines have not been a part of core focus are of this research however on analyzing literature review, some inferences could be drawn.

The fifth, last and important theoretical implication of the research was its contribution in conceiving interaction effects by synthetic combination of two constructs of entrepreneurial orientation and dynamic capabilities on SME competitive advantage. Research assets that by this shared capability of constructs, functions that can be rendered from creative utilization of resources (Penrose, 1959). The research provided meaningful and worth exploring contributions on understanding how the different theory streams of entrepreneurship and strategic management combine and interact with each other and offer empirical answers by way of mediation analysis that a higher order layer can be formed by these two constructs which establish that there are internal functional activities which can be in action for sustaining SME competitive advantage. Although this synthesis of constructs seemed quite convincing in theory, the empirical findings rejected the mediation. This is also an important theory implication because it can be inferred from the results that while presence of DC is well acknowledged for competitive advantage, its intervention with EO for competitive advantage effects is questionable. This means that DCs are present in SMEs and effective as stand-alone constructs but their interactions with other constructs is yet not fruitful, this is something that the theory has to examine. The findings of the research are insightful for competitive behavior theory and the conceptual work of Chen and Hambrick (1995).

Finally, the research implies that there is an impending need to develop more complex configurational models that goes to the core of SME traits and understand why all SMEs are not entrepreneurial and are not given same opportunities to compete and grow (Zahra et. al., 2006). A higher-order modelling of the inter relationships discussed in the research is warranted backed by a rich theory development.

In summary, the current study confirms that entrepreneurial orientation (EO) and dynamic capabilities (DC) both have individual positive effect on SME competitive advantage (CA). While environmental dynamism (ED) has an individual negative effect on CA, with presence of EO the effect of ED becomes a positive moderating influence. Also, there is no intervening or mediation effect of dynamic capabilities on the relationship between ED and CA. An explicit implication which can be drawn from the above summary developing a micro foundational normative research thinking for on SMEs defining characteristics should take clues for the above research. There is a merit in harnessing these constructs which has been proved empirically. Hence, practice and consequent finding have been able to inform theories for its progression and evolution.

8.6. Implications for practice

The research found support for most of the proposed hypotheses (claims) except one. This intense research study in this thesis presents a number of practical implications. Firstly, it is established that there is a positive effect of entrepreneurial orientation on SMEs' competitive advantage. With this finding, the owners, entrepreneurs and senior managers in SMEs should understand that while cultivating entrepreneurial traits in themselves, they also sow the seeds for generating competitive advantage for their firms. This highlights the importance of formulating strategic intent of developing entrepreneurial orientation within the firms. In other words, SMEs' entrepreneurs and senior managers should develop firm-level entrepreneurial behavior for enhancing competitive strategy. In other words, EO needs to be associated with strategy of the firm. This recommendation is relevant especially for SMEs that targets niche markets where growth opportunities could be challenging but competitive advantage is necessary.

Secondly, the research also implied that EO is manifested as multidimensional construct and the three traits of pro-activeness, innovativeness and risk-taking exist and effect individually the outcomes. Therefore, SMEs with resource constraints, could focus on specific dimensions

of EO initially that match with their strategy and their typical EO profile. It can also be implied for practice purposes that dimensions of EO could be channelized through competitive strategy. In this research, the risk-taking dimension did not have significant impact on competitive advantage. This could have implications for opportunities of access to finance. The importance of cultivating EO is also important from the finding that environmental dynamism negatively affects CA, however it positively moderates the relationship between EO and CA. Thus, it could be inferred that in highly dynamic environments, more the EO less is the negative effect of environmental dynamism. In summary for the first theme of research, it is recommended that Entrepreneurial Orientation needs to be nurtured over time through steady resource investments and constituting EO as a long-term firm strategic orientation.

Third, the message to be communicated to SMEs' decision makers is whether it is firm performance or firm growth as its long-term objective; competitive advantage matters. When the competitive strategy is formulated in line with firms' core competencies, it gives rise to distinctive competency. This generates and sustains the competitive advantage. Hence, the role of firm's resources is instrumental. In other words, firms, by being entrepreneurial, are able to create a context for building competitive advantage and firm growth. However, this should be complemented by an attitude that fosters capacity to grow against competition, and it is strengthened with the development of internal processes that build a firm's capacity to compete and grow. As operationalized by the research in this thesis, these internal knowledge-based processes are higher-order capabilities known as dynamic capabilities in the form of strategic sense-making, responsiveness and decision sensing, and reconfiguring which helps a firm in generating competitive advantage in rapidly changing environments. Purposeful development of dynamic capabilities which are aligned with the defining characteristics of SMEs (adhocracy) has positive implications for competitive advantage and growth. Given the positive research findings with respect to role of dynamic capabilities in SME competitive advantage, it is imperative for managers and entrepreneurs to develop and nurture their dynamic capabilities to drive their performance (Arend, 2014).

Overall, this research provides valued insight to SMEs that aim to address their ambition for successful competitive and growth outcomes. Entrepreneurial orientation and dynamic capabilities are two powerful pillars for such SMEs. By synergizing between both entrepreneurial intents and internal features, the firms can get momentum that help them overcome any resource- or structure-based inertia caused by the smallness of the firm size. This way, the practitioners can benefit from the discussed interplay of dynamic capability and

entrepreneurial orientation and use recommendation of the combination as a long-term orientation as these combinations of capabilities is a long drawn and resource and time-consuming process. The functional linkages and structural paths of the entrepreneurial intentions and the internal higher order SME assets indicate that the managers and entrepreneurs can capitalize on this by understanding that SME traits can actually enhance the ability to compete and grow if channelized properly. Since both of these constructs contribute positively to competitive advantage, it is necessary to cultivate and maintain both of them. However, this should be implied that SMEs would not typically remain small throughout their venturing process. So, the practical guidelines should be utilized in contextual manner. Pragmatically considered, the SME growth orientation should not be just increase in size and resources but in terms of development of internal firm processes that will augment its willingness and commitment for growth.

8.5.1 Implications for Policy Makers

The research in this thesis has implications for policy makers as well. The policy makers should facilitate SMEs in such ways that sustainable differentiation is created through the SMEs. This may bring more innovation and create more jobs in the market. SMEs should be provided with suitable managerial infrastructures and professionalization apparatus accordingly. In short, the right chord of growth has to be stroked. This will enable SMEs to develop competitive advantages by appropriating value from the opportunities identified (Ireland et. al., 2003).

8.5.2 Implications for Large firms

On a very narrow and confined manner, the research implications may also have extended to large firms. Large firms may consider these recommendations in the domain of inculcating corporate entrepreneurship where each venture is treated as a small entrepreneurial firm. Based on the findings of the research in this thesis, this should stimulate growth and competitive advantage potential within a large firm.

8.7. Limitations of the research

Like all prior studies, this research endeavour has its limitations. Primary among these is the fact that the country context of India, representing emerging economies, is a diverse country, relatively small-sized sample study. The generalizability of its findings may be specific to the context. Indian context being an emerging economy might have certain traits and variables which may not be found in other countries especially in emerged economies .This limits generalization of findings related to small and medium firms in other country settings. Second,

there was a limitation regarding the choice of analytical and statistical tools with respect to the sampling frame. For each industrial sector categorization of SMEs, there were a smaller number of cases and so, sector-specific observations and cross comparisons could not contribute to the substantial and deeper level understanding of phenomena under investigation.

Due to the assumptions that dynamic capabilities take time to develop and firm needs to have survived the initial stages of growth for a fruitful research, the sampling excluded firms with less than five years of venturing activity. This third limitation excluded firms which were startups and has a promising potential to grow and harbour dynamic capability. Two main constructs of the thesis –entrepreneurial orientation and dynamic capabilities have different demonstrations with regards to firm age and size (Arend, 2012).

Choice of research design was one more challenge for the study and its fourth limitation. This research considered cross-sectional design because it was convenient feasible, practical and convenient for the researcher. Intentions to have in-depth understanding about the main constructs of the research, especially the connubial relationship of EO and dynamic capabilities, would call for a longitudinal research methodology to draw richer, and robust empirical claims (Davidsson, 2009). This warranted significant time and resource restraints and was outside the feasibility scope of this research. Therefore, the study's findings are restricted to prediction rather than inference. To cater to this limitation, the research proposes future research directions in the following sub-section of this chapter. The following section discuss about endogeneity as research limitation

8.7.1 Endogeneity Bias - understanding the effects

One of the most commonly used phenomena in research is understanding of causality between the variables. Causal claims are used when researchers attempt to understand if one variable predicts, influences, causes, explains the other variable or any relationship between variables. This forms back bone of large number of researches and is a well-established practice. By validating causal claims researchers conclude their hypothesis and based on that provide practice prescriptions.

An increasing number of articles in entrepreneurship, strategic management, and other management research areas like supply chain management, international business, have ongoing debates related to the issues of endogeneity in research (Shugan 2004, Guide&

Ketokvivi, 2015; Jean, Deng, Kim & Yuan, 2016). Endogeneity accounts for an vital research problem as it challenges the authenticity of causal claims (Antonakis, Bendahan, Jacquart, & Lalive, 2010, 2014). There is a risk of biased inaccurate results and hence incorrect conclusions which can affect the research findings adversely. If there is experimental data collection than the effects of endogeneity are lesser , however any research involving survey design which involves questionnaire administration is vulnerable to having endogeneity bias (Anderson & Simester, 2004, Toubia et al, 2003).

Endogeneity is referred to an instance where an independent variable correlates with the error term in a given research model. This implies that the coefficient estimate of the independent variable does not converge to the real value of the coefficient value of population especially with the increase in sample size . This is due to the fact that when an independent variable correlate with error term , the estimated coefficient includes the effect of all other unobserved factors that would otherwise correlate with independent variable and predict the dependent variable resulting in incorrect interpretation of the research findings. Endogeneity can be observed in direct relationship as well as moderating relationship between variables

8.7.1.2 Sources of endogeneity

There are many ways in which endogeneity can be originated. Based on the work of Shadish et al. 2002(internal validity threats) and Meyer 1995 ; the authors Antonakis et al, 2010 have identified few sources of endogeneity which are given in the Table 7.8 below. Zaefarian et al 2017 Mainly there are three sources of endogeneity bias which includes omitted variables, measurement error and simultaneity (Zaefarian et al 2017; Wooldridge 2002).

1. Omission of variables

This is the one of the commonest reason for occurrence of endogeneity bias in research and has received maximum amount of attention by management scholars. Basile (2008). This type of bias occurs when a latent or omitted factor is present which affects both dependent as well as independent variable and is correlated with one or more omitted—or latent—factor exists which both affects the dependent variable and is correlated with one or more independent variables. In this case the error term will be correlated and also the estimate coefficient of independent variable will be biased. Unavailability of data results in such instances as mentioned above which can challenge assumptions about exogeneity which states that the error term has an expected value of zero given any independent

variable (Wooldridge, 2013). This muddles the correctness of assessment of predictive power (Kennedy 2008). In case of this research investigating the effect of entrepreneurial orientation on competitive advantage, there can be other variables that may affect both firm proactiveness and competitive advantage may include market characteristics and founder mentality. If such kind of variables are omitted and not considered the variations will be picked up by error term creating endogeneity bias.

Another form of omission based bias is with respect to omitting selection (Antonakis et al., 2010, Clougherty et al, Wooldridge, 2002). Omitted selection is a critical source of endogeneity in management related research. (Antonakis et al. 2010). This occurs when on the basis of certain unserved factors which correlate with the dependent variable and the predictor variables in the model, the respondents self-select their choices. Managerial decisions are endogenous to their expected performance implications (Hamilton and Nickerson 2003).

2. Measurement errors

This arises when variables are not measured perfectly and their true value is not observed. This can be due to lack of appropriate measuring instruments or in exhaustive data collection methods. (Wooldridge, 2002, Kennedy, 2008). The enablers of this issue can range from questionable reliability of survey constructs and scales, faulty survey translation, improper measures, missing data. This type of bias occurs when the variables on which data can be collected is different from the variable that can have influence on the decisions of related actors (Zaefarian, 2017). This occurs in an instance when there is an intent to observe an exogenous variable which is pure construct, instead of this a not so perfect indicator or a proxy of that variable is measured. This proxy indicator is mistakenly measured with the exogenous variable. The proxy indicator contains an error term and the exogenous variable. Hence the coefficient of proxy variable will be inconsistent. This bias will also affect the relationships hypothesized and create endogeneity.

3. Simultaneous causality

Endogeneity bias due to simultaneity arises when independent and dependent variables simultaneously cause one another i.e there are reciprocal causal effects. The error term is comprised of latent factors which may affect the dependent variable . There is correlation between error term and independent variables which results in endogeneity bias. In this case it will arise then entrepreneurial predicts competitive advantage and simultaneously competitive advantage also predicts entrepreneurial orientation can be an example of simultaneity . Same can be when dynamic capabilities is independent and competitive advantage is dependent variable. This creates the risk of coming to misleading conclusions.

Table 7.8 Sources of endogeneity (adopted from Antonakis et al. 2010).

Sr. No	Validity threat	Explanation
1	Omitted variables	(a) Omitting a regressor, that is, failing to include important control variables when testing the predictive validity of dispositional or behavioral variables (e.g., testing predictive validity of “emotional intelligence” without including IQ or personality; not controlling for competing leadership styles) (b) Omitting fixed effects (c) Using random-effects without statistical justification (i.e., Hausman test) (d) In all other cases, independent variables not exogenous (if it is not clear what the controls should be)
2	Omitted selection	(a) Comparing a treatment group to other non-equivalent groups (i.e., where the treatment group is not the same as the other groups) (b) Comparing entities that are grouped nominally where selection to group is endogenous (e.g., comparing men and women leaders on leadership effectiveness where the selection process to leadership is not equivalent) (c) Sample (participants or survey responses) suffers from self-selection or is non-representative
3	Simultaneity	a) Reverse causality (i.e., an independent variable is potential caused by the dependent variable)
4	Measurment error	(a) Independent and dependent variables are gathered from the same rating source
5	Common-method variance	(a) Independent and dependent variables are gathered from the same rating source

6	Inconsistent inference	(a) Using normal standard errors without examining for heteroscedasticity (b) Not using cluster-robust standard errors in panel data (i.e., multilevel hierarchical or longitudinal)
7	Model misspecification	(b) Using a full information estimator (e.g., maximum likelihood, three-stage least squares) without comparing estimates to a limited information estimator (e.g., two stage-least squares).

8.7.1.3 Consideration of endogeneity for moderators and mediators and moderators

The sources of endogeneity bias can also affect the testing moderating and mediating aspects in a research framework. In case of moderators, the endogeneity source of measure error can cause problems. When independent and moderator variable is measured with error, the estimates of unstandardized coefficients will be biased. On the other hand measurement error in dependent variable will not bias the estimates of coefficient but will reduce the estimates of explained variance and give a false conclusion that predictors have lesser explanatory power than actual. There would exist certain endogenous variables which affect moderator variable as well as either dependent or independent variable hence there is a chance that correct estimates of moderating effects may not be obtained (H. Aguinis et. al, 2016)

In case of mediation, the source of endogeneity can arise due to model misspecification (J Antokanis et. al, 2010) and it comes into existence by not correlating errors of potential regressors which are endogenous in nature in mediation models. It also comes in existence when augmented regression or Hausman test is not carried out.

There are various remedies to address endogeneity issued as per the source of bias. The following table 7.9 mentions the remedies. The table is adopted from (Zaefarian, 2017).

Table 7.9 Remedies of endogeneity source-(Zaefarian, 2017)

Technique	Description of technique	Endogeneity source	Exemplary studies
Instrumental Variables: Two-Stage Least Squares (2SLS)	Step 1: Regress the endogenous variable on all chosen instruments, which have previously undergone relevance and exogeneity checks, and obtain the residual for the endogenous variable. Step 2: Replace the endogenous variable with the corresponding residual and regress the dependent variable on it.	All	Li and Zahra (2012); Tang and Wezel (2015).
Instrumental Variables: Three-Stage Least Squares (3SLS)	Similar to 2SLS; a moderator is used as instrument to obtain residuals for the predictor. Step 1: Regress each predictor on all moderators, confirm significant relationship between moderators and the predictor, and obtain residuals for the predictor. Step 2: Replace each predictor with the corresponding residual and regress dependent variable on obtained residuals. Step 3: Add the interaction terms to the model.	All	Poppo, Zhou, and Li (2016); Zhou and Li (2012)
Instrument-Free Approaches: Higher Moments	Instruments are obtained from the available data by exploiting higher-order moments.	All	Erickson and Whited (2002); Lewbel (1997)
Instrument-Free Approaches: Identification through Heteroscedasticity	Instruments are obtained from the available data by exploiting higher-order moments, but information on heteroscedasticity is required (with the aid of introducing an observed grouping variable which explains heteroscedastic error structure).	All	Hogan and Rigobon (2003); Rigobon (2003)

Instrument Free Approaches: Copulas	Modeling of the joint distribution of the endogenous variable and the error term (by using a density estimation method) to maximize the likelihood of the structural equation of interest. This is achieved by copulas, i.e. functions that “couple” multivariate distributions to their one-dimensional marginal distribution functions and capture the correlation between the variable and the error.	All	Datta, Foubert, and Heerde (2015); Zhang, Kumar, and Cosguner (2017)
Generalized Method of Moments	The model is specified as a system of equations, based on different time periods, where the endogenous variable is regressed on the instruments (lagged values) applicable to each equation. Instruments in each equation are different (since in later time periods, additional lagged values of the instruments are available) and not exogenous (are present in the model).	All	Fang, Lee, Palmatier, and Han (2016); Shah, Kumar, and Kim (2014)
Matching Method	Propensity score matching (PSM) partials out selection bias by creating a quasi-control group. Using a set of firm characteristics in a probit regression, this technique pairs every firm in the treatment group with a statistical twin firm from a large set of non-participant firms to form the quasi-control group. These statistical twins can be used for comparison to examine the treatment effects.	Selection Bias	Garnefeld, Eggert, Helm, and Tax (2013); Chang, Chung, and Moon (2013)

Heckman Two-Step Procedure	Heckman's two-step approach deals with selection bias. Step 1: Run a probit regression to predict the conditional distribution of the treatments with a set of covariates that capture the relevant attributes. Often all control variables and moderators of the study are used for this purpose. Step 2: Add the resulting inverse Mills ratio (IMR) to the final model.	Selection Bias	Thomaz and Swaminathan (2015); Fang, Lee, and Yang (2015)
Lagging Independent Variable	This non-statistical remedy aims to alleviate concerns regarding simultaneity effect. This remedy can be considered in the ex-ante research design stage by introducing a time lag between the measurement of the predictor and criterion variables.	Simultaneity	Tang, Fang, and Wang (2014); Griffith, Hoppner, Lee, and Schoenherr (2017)
Natural Experiments	Natural experiment is a unique way of forming treatment and control group to address the sample selection bias during the ex-ante research design stage. This approach is based on occurrence of a “shock” such as change in regulatory or a crisis that only affects a limited number of firms, hence the researcher can form the treatment group based on affected firms, and treat non-affected firms as a control group	Selection bias	Bertrand, Duflo, and Mullainathan (2004)
Regression Discontinuity Design	The regression discontinuity design is another unique statistical approach to find an indicating factor through which a researcher can assign an observation in the sample to either the treatment or the control group in examining the treatment effects.	Selection bias	Lee and Lemieux (2010); Hartmann, Nair, and Narayanan (2011)

8.7.1.5. Endogeneity as a research limitation

Although in this research best possible attempts have been made to avoid issues relating to endogeneity such as use of good quality survey instruments, interview techniques, empirical methodology rigour to avoid endogeneity due to omission of variables, measurement errors and simultaneity. However considering the constraints of access and availability of sample in terms of SME owners of a State of India, choice of cross sectional data, level of respondents, availability of time with and degree of patience and understanding of respondents there could be some sources of endogeneity which we accept and acknowledge as research limitation and will try to address in future research in this area which we will conduct by building upon this theses.

8.8. Future research recommendations

This part proposes a set of enhancements that are uncontestedly advantageous for materializing this research's findings accounting for its limitations. Firstly, the context of this study needs to be in a larger scale across industries, irrespective of firm size, age or type as it would provide a platform to experiment with more sophisticated analytical tools, more reliability and validity opportunities and emergence of new avenues to inform future research. Such efforts could aid SME managers for competing better in in turbulent (fast moving) industries and make successful changes and evolutions to adopt future changes. Such works may also benefit established firms to better gauge SMEs to collaborate, buy and invest. In the future, research that stimulates to develop the understanding of the individual dimensions of EO from a formative perspective should be encouraged. This may renew and refresh the already much researched EO construct with respect to EO-performance relationship for the current theme, EO research, the significance of internal context is advised (Wales et. al., 2013).

The constructs need novel operationalization measures. Using different methodological approaches like a qualitative research, the theme can undertake an in-depth research into the nuances of association of entrepreneurship and dynamic capability thereby inviting scope of other constructs to be developed. Environmental dynamism as a construct would benefit from a more comprehensive operationalization and better measures. A micro level understanding of ED would help a researcher in deciphering its linkages with other constructs which could

enhance the quality and robustness of research. This is beneficial for measuring the impact of dynamic capabilities in pure, detailed and causal forms (high/medium/low firm performance (Durand and Vaara, 2009, Tang et al., 2009). Dynamic capability development in SME context is a relatively less researched area that needs further intuitive investigations. It is proposed that higher order resources in entrepreneurial settings requires further theoretical progression as they lead to lead to successful change and innovation (Lanza and Passarelli, 2014). More work is needed with the aim for the EO-DC next generation SME owners and managers are guided on harnessing both entrepreneurship and dynamic capabilities both together in organization which guide them to manage unanticipated challenges (Arend, 2012).

Finally, it is proposed that future research should be pointed towards how the SME evolves, adapts, transforms developing these constructs and with their interactions. It will offer important understanding how SMEs are formed and changed. How they are shaped by the combination of entrepreneurship and higher order capabilities and in turn how they shape the industries and the business landscape. This requires an integration of theoretical and empirical findings in the areas of entrepreneurship, organizational studies, organizational science, and strategic management and strategic entrepreneurship. By utilizing the prescriptive and methodological practices discussed above SMEs might be able to realise its potential of being much more than a resource constrained, informal, bundle of resources, decisions, strategies and capabilities. Many path dependencies are waiting to be unmasked in the social science research to come.

CHAPTER 9

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Chapter 10

Appendices

Appendix A –Summary of the representative studies of the EO -Performance relationship.(Reference: Rauch et al 2009)

Table 1 Study description										
Sr . No.	Author Name	Yr	Dimensions	Measurement Scale	Uni/Multidimensional	Performance Indicator	Country of Origin	Size of Firms	Industry of Firms	Sample Size
1	G. Thomas M. Hult, Robert F. Hurley, Gary A. Knight	2003	Innovativeness adapted from Hurley (1998). EO adapted from C&S (1989)	5 items adapted from Namen & Slevin (1993) and C&S (1989) on 7-point Likert scale	Unidimensional	Perceived Financial Performance	USA	Large Enterprises	Mix	181
2	Stanley F. Slater and John C. Narve	2000	Innovativeness, risk-taking, and competitive aggressiveness	7 items Naman and Slevin (1993) on 5 Likert-type scale	Unidimensional	Perceived Financial Performance	USA	-	Mix	53
3	Fredric William Swierczek and Thai Thanh Ha	2003	Risk taking, proactiveness and innovation	9 items on 5 point Likert scale adapted from Covin's (1991)	Multidimensional	Perceived Financial & Non-financial Performance	Vietnam and Thailand	Micro and Small enterprises	Mix	478
4	Shahid N. Bhuiyan,	2003	Innovativeness, proactiveness, and	11 items from Miller and Friesen (1982), and Morris and Paul (1987)	Unidimensional	Perceived non-financial performance	USA	-	Non-High tech (not-forprofit hospital)	231

	Bulent Menguc, Simon J. Bell		constructive risk taking							
5	Robert E. Morgan, Carolyn A. Strong	2003	Aggressiveness, analysis, defensiveness, futurity, proactiveness, and riskiness	6 sets of statements by Venkatraman(1989) for strategic orientation	Multidimensional	Perceived Financial & Non-financial Performance	UK	Small and Large firms	High Tech	149
6	Phil E. Stetz, Roy Howell, Alex Stewart, John D. Blair, Myron D. Fottler	2004	proactiveness, risk-taking, and futurity*	Venkatraman (1989)	Multidimensional	Perceived Financial & Non-financial Performance	USA	Micro and Small Organization	Non-High tech (health care)	865

7	Li Haiyang, A.-G. Kwaku, and Z. Yan,	2000	Innovation, marketing differentiation, market breadth, marketing alliance	<p>Innovation is measured with four items drawn from Miller (1987) and Zahra and Covin (1993). Marketing differentiation is measured with six items drawn from Dess and Davis (1984) and Miller (1987). Market breadth is measured with three items drawn from McDougall and Robinson (1990). Marketing Alliance is measured with six items based on the work of Bucklin and Sengupta (1993).</p>	Multidimensional	Perceived Financial & Non-financial Performance	China	Small company (mean)	High tech (Computer software and hardware, electronics and information technology, integrated optical, new energy and new material, pharmaceutical and bioengineering, and others)	184
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8	Rainer Harms and Thomas Ehrmann	2001	Innovation and Risk-taking	Covin and Slevin 1986	Unidimensional	Perceived Financial & Non-financial Performance	Germany	-	Mix	82
9	Jeffrey G. Covin, John E. Prescott, and Dennis P. Slevin	1990	Risk-taking, pro-activeness, and innovation	nine items scale of Covin and Slevin (1989)	Unidimensional	Perceived Financial Performance	USA	Micro and Small company (majority small company)	Mix	113

10	Jeffrey G. Covin, Dennis P. Slevin, and Randall L. Schultz	1994	Innovation, Proactiveness, and risk taking	9 items, 7-point scale Covin and Slevin (1989)	Unidimensional	Perceived Financial Performance	USA	Micro and Small company (majority small company)	High tech(glassware, electro-mechanical pressure switches, jewellery, computeraided transcription devices, car care products, pacemakers and related biomedical devices, coatings for food and beverage containers, speciality steels, thermoplastic compounds, audio transducers, water treatment chemicals, orthopaedic foot products, metal cutting tools, activated carbon, breathing apparatus, and printed circuits.	91
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11	Jeffrey G. Covin and Teresa Joyce Covin	1990	Competitive Aggressiveness	3-item scale of Khandwalla (1976/1977)	Unidimensional	Perceived Financial Performance	USA	Micro and Small company (mean=small, 66 employees)	Mix	143
12	Choonwoo Lee, Kyungmook Lee, and Johannes M. Pennings	2001	innovativeness, risk-taking propensity, and proactiveness	Innovation is measured with suggestion of Lumpkin and Dess (1996), Miller and Friesen (1982), and Hage (1980). Risktaking is measured with Miller's (1983). Proactiveness is measured with Miller (1983) and Naman and Slevin (1993)	Unidimensional	Perceived Financial Performance	Korea	Micro and Small company (mean=micro, 31 employees)	High tech	137

13	G.T. Lumpkin and Gregory G. Dess	2001	innovativeness, risk-taking, proactiveness, and competitive aggressiveness	Khandwalla (1977), Miller (1983), Covin and Slevin (1986, 1989a), and Covin and Covin (1990)	Multidimensional	perceived financial performance	USA	-	Mix	94
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14	Louis Marino, Karen Strandholm, H. Kevin Steensma, and K. Mark Weaver	2002	Proactiveness, risk taking, and innovative	Covin and Slevin (1988, 1989)	Unidimensional	Perceived non-financial Performance	Finland, Greece, Indonesia, Mexico, Netherlands, and Sweden	micro and SME	Mix(food & related products, wood & related products, printing machines and ancillary products, rubber & related products, transportation & related products, machine tools & related products, electronics & related products, computer programming, textiles & related products, services, construction & related services, oil & gas extraction & related services)	647
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15	Pavlos Dimitratos, Spyros Lioukas, and Sara Carter	2004	risk-taking, proactiveness, and innovativeness	7-point Likert type scales, Risk-taking are drawn from Khandwalla (1977), Miller & Friesen (1982), Naman & Slevin (1993); Proactiveness is drawn from Covin & Covin (1990); Innovativeness is drawn from Miller & Friesen (1982)	Unidimensional	Perceived non-financial performance	Greek	Mix, mostly small company	Mix (food, beverages, garments, footwear and software sectors)	152
16	Gerard George, D. Robley Wood JR, Raihan Khan	2001	Risk-taking, Proactiveness, Innovativeness, Autonomy, and Competitive aggressiveness	14-item, 7-point scale, of which nine items are from Naman and Slevin (1993) and five items were from Lumpkin and Dess (1996).	Unidimensional	Archival Financial Performance	USA	small and medium bank (revenue <US500 Million)	Non-High tech (bank)	70

17	G. Tomas M. Hult, Charles C. Snow, and Destan Kandemir	2003	Innovativeness	Entrepreneurship was measured by five items adapted from Naman and Slevin (1993). Innovativeness was measured by five items adapted from Hurley and Hult (1998).	Unidimensional	Perceived Financial Performance	USA	Large enterprises	Mix	764
18	Ari Jantunen, Kaisu Puumalainen, Sami Saarenketo, Kalevi Kyläheiko	2005	Innovativeness, proactiveness, and risk-taking	The measure was adapted from Naman and Slevin (1993), and Wiklund (1998), which were based on measures developed in Covin and Slevin (1988) and Miller and Friesen (1982)	Unidimensional	Perceived and archival financial performance, and perceived non financial performance	Finnish	Small and Large firms	Mix (food, forestry, furniture, chemicals, metals, electronics, information and communications technology (ICT), and services	217

19	Bruce H. Kemelgor	2002	Innovation, risk-taking, and proactiveness	9-items Covin and Slevin(1986)	Unidimensional	Archival Financial Performance	Netherlands and USA	SMEs	High tech(electronics, computer software, and pharmaceutical industries)	8000
20	Patrick Kreiser, Louis Marino, and K. Mark Weaver	2002	Innovation, Proactiveness, and risk taking	Covin and Slevin (1989) on five-point Likert scale.	Multidimensional	Perceived non-financial performance	Australia, Costa Rica, Finland, Greece, Indonesia, Mexico, Netherlands, Norway, Sweden	Micro & Small Enterprises	Mix	1671
21	Jeffreg G. Covin, Kimberly M. Green, Dennis P. Slevin	2006	Innovation, risk-taking, and proactiveness	9-items, 7-point scale Covin and Slevin (1989), and partially from Khandwalla (1976/1977) and Miller and Friesen (1982)	Unidimensional	Archival Financial Performance	USA	Micro, Small, and Large firms. Mostly small company	Mix	110

22	Albert Caruana, Michael T. Ewing, and B. Ramaseshan	2002	risk-taking, innovation, and competitive aggressiveness	13-items developed from 5-items Miller and Friesen(1982)	Unidimensional	Perceived financial and non-financial performance	Australia	Middle to Large organization	Non high tech (public sector entities/government departments)	136
23	Richard C. Becherer and John G. Maurer	1999	proactiveness	9-items Likert scale adapted from Covin and Slevin (1989)	Unidimensional	Perceived financial performance	USA	micro to small companies , mostly micro companies	Mix	215
24	Hilton Barrett and Art Weinstein	1998	Innovativeness, proactiveness, and risk-taking	9-items Covin and Slevin(1989) on 7points Likert scale	Unidimensional	Perceived non-financial performance	USA	micro to large companies	Mix (manufacturing)	142
25	Kwaku AtuaheneGima	2001	risk-taking, proactiveness, aggressiveness, innovation	6-items Covin and Slevin(1989)	Unidimensional	perceived financial performance	Australia	SMEs	Mix	181
26	Shaker A. Zahra	1991	Innovation, risk-taking, and proactiveness	9-items Miller(1983)	Unidimensional	perceived and archival financial performance	USA	Large companies	Mix	119

27	Shaker A. Zahra and Dennis M. Garvis	2000	Innovation, Proactiveness, and risk taking	7-items modified version of Miller (1983), on 5-points scale.	Unidimensional	Archival Financial Performance	USA	small to large companies	Mix	98
28	Shaker A. Zahra and Jeffrey G. Covin	1995	Innovation	4 measurements (technology policies scale, aggressive technological posture scale, automation and process innovation scale, and new product development scale) on 7-points scale	Multidimensional	Archival Financial Performance	USA	-	mix (mature industries, such as: textiles, metal household furniture, setup paperboard boxes, paving mixtures and blocks, blast furnaces, and steel mills)	103
29	Shaker A. Zahra	1996	Innovation, venturing, and strategic renewal	14-items on 5-point scale, adapted from Miller (1983)	Multidimensional	Archival Financial Performance	USA	Large companies	-	127
30	Shaker A. Zahra, and Donald O. Neubaum	1998	Innovation, Proactiveness, and risk taking	7-item Miller (1983) on 5-point scale	Unidimensional	perceived financial performance	USA	micro to small companies, mostly micro companies	Mix	99

31	Rob Vitale, Joe Giglierano, and Morgan Miles	2003	Innovation, Proactiveness, and risk management	Covin and Slevin (1989), and subsequent refinement done by other researchers	Unidimensional	perceived non-financial performance	USA	-	Mix	89
32	Danny Miller, and Jean-Marie Toulouse	1986	Innovation	Miller (1983)	Unidimensional	perceived financial performance	Canada	micro to small companies	mix(electronics, financial services, home appliances, food and beverages, industrial equipment, lumber, construction, retailing and mining)	97
33	John L. Naman and Dennis P. Slevin	1993	risk-taking, proactiveness, and innovativeness	9-item on 7-point Likert scale, Covin and Slevin (1986, 1988) based on the work of Miller and Friesen (1982), and Khandwalla (1976/77)	Unidimensional	Perceived financial performance	USA	micro to small companies	High-tech	82

34	June M. L. Poon, Raja Azimah Ainuddin, and Sa'odah haji junit	2006	innovativeness, proactiveness, and risk-taking	9-items adapted from Covin and Slevin (1989) and Miller and Friesen (1982), on 5 point Likert scale	Unidimensional	perceived financial performance	Malaysia	micro to small companies	Mix	96
35	Justin Tan and David Tan	2005	futurity, proactiveness, risk affinity, analysis, and defensiveness	5 strategic orientation variables by Tan and Tan	Multidimensional	perceived financial performance	China	mix	High-tech(electronics industry)	104
36	N. Venkatraman	1989	aggressiveness, analysis, defensiveness, futurity, proactiveness, riskiness	6-dimensional model of STROBE (a matrix of zero-order correlations of 29 indicators) of Venkatraman	Multidimensional	perceived financial performance	USA	-	mix(consumer goods, capital goods, raw or semi-finished goods, components for finished goods, and service)	202

37	Achim Walter, Michael Auer, Thomas Ritter	2006	proactiveness, innovation, risk-taking, and assertiveness	six items, three items are adapted from Dess et al. (1997), and the other three items are based from Lumpkin and Dess (1996)	Unidimensional	Perceived financial and non-financial performance	Germany	micro, average 16 people	mix(technical services, consulting, and technical manufacturing)	149
38	K. Chadwick, S. Dwyer, and T. Barnett	1999	risk-taking, innovation, and proactiveness	9-item on 7-point Likert type Strategic Posture scale developed by Khandwalla (1977)	Unidimensional	perceived financial performance & archival performance	USA	-	Non High-tech(banking industry)	535
39	Dirk De Clercq, Harry J. Sapienza, and Hans Crijns	2003	Innovation, proactiveness, and risk-taking	5-item scale by Miller (1983)	Unidimensional	perceived financial performance	Belgium	Micro & Small Enterprises	Mix (agriculture, construction, manufacturing, transportation, wholesale trade, retail trade, and service)	92

40	Erik Monsen	2005	risk-taking, innovativeness, proactiveness, and autonomy	3-item scales from Covin and Slevin (1989) are used to measure risk-taking, innovativeness, and proactiveness; while autonomy is measured using 3-item self determination subscale from Spreitzer's (1995, 1996) four factor empowerment	Multidimensional	Perceived non-financial performance	USA	large	non high-tech (healthcare)	1505
41	Orlando C. Richard, Tim Barnett, Sean Dwyer, and Ken Chadwick	2004	Innovation, risk-taking, and proactiveness	9-item entrepreneurial orientation scale by Covin and Slevin (1989)	Multidimensional	Archival financial Performance	USA	average medium companies	non high-tech (bank)	153

42	Johan Wiklund, and Dean Shepherd	2003	Innovation, proactiveness, and risk-taking	9-item of Covin and Slevin (1989)	Unidimensional	Perceived financial and non-financial performance	Sweden	Micro & Small Enterprises	mix(manufacturing, wholesale/retail, and services)	384
43	Johan Wiklund, and Dean Shepherd	2005	Innovation, risk-taking, and proactiveness	8-item of Miller	Unidimensional	perceived financial performance	Sweden	Micro enterprises	mix(knowledgeintensive manufacturing, laborintensive manufacturing, pfoessional services, and retail)	413
44	So-Jin Yoo	2001	Innovation, proactiveness, and risk-taking	modified version of 9-item scale Covin and Slevin (1989) on 7-point Likert-type scale	Unidimensional	Perceived financial and non-financial performance	Korea	micro and SMEs	Technology-based firms	277

45	Jeffrey G. Covin and Dennis P. Slevin	1986	risk-taking, innovativeness, and proactiveness	6-items Khadwalla (1977) to measure risk-taking, 2-items from Miller & Friesen (1982) to measure innovation, 2-items from Miller and Friesen (1983) to measure proactiveness	Unidimensional	perceived financial and non-financial performance	USA	large firms	Mix	76
46	Smart, Denise T. and Conant, Jeffrey S.	1994	risk-taking, strategic planning activities, customer needs and wants identification, innovation, vision to reality, identify opportunities	7-point scale of Churchill and Peter (1984).	Unidimensional	perceived financial performance	USA	micro companies	non-high tech (apparel retailers)	599

47	Rauch, A. Frese, M., Koenig, C. and Wang, Z. M.	2006	innovation, risk-taking, and proactiveness	6-item of Covin and Slevin (1986) scale	Unidimensional	Perceived financial and non-financial performance	China & Germany	-	mix(car and machinery components manufacturing, software development, hotel and catering, and building and construction)	364
48	Richter, A.	1999	Autonomy, competitive aggressiveness, innovation achievement, risk	15-item, developed based on Covin & Slevin, 1989	Multidimensional	Perceived non-financial performance	Germany	micro	Mix	208
49	Van Gelder	1999	Innovation, proactivity, competitive aggressiveness	9-item, developed based on Covin & Slevin, 1989	Multidimensional	Perceived non-financial performance	Fijian	Micro	Mix	71
50	Arbaugh, J. B., Larry W. Cox, & S. Michael Camp	2005	Innovativeness, proactiveness, risk-taking	9-item of Covin & Slevin (1989)	Unidimensional	perceived financial performance	17 countries	SMEs	Mix	1045

51	Wouter Stam, Tom Elfring	2006	Innovativeness, proactiveness, and risk-taking	9-item of Covin & Slevin (1989)	Unidimensional	perceived financial performance	The Netherlands	micro enterprise	OSS open source software produces and services	90
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Appendix B – Research Questionnaire

Brunel University, UK
Uxbridge, UK

Entrepreneurship and competitiveness in Indian Small and Medium Enterprises

1. The aim of this research is to identify the factors that contribute to the competitiveness of Indian Small and Medium Enterprises
2. Please answer all the questions on the basis of what is actually happening in your firm and not what you would wish to be happening
3. The format of the questionnaire will allow you to fill it in 35-40 minutes
4. This study is conducted under confidentiality and full anonymity. The names of the companies and persons participating will not be announced anywhere.

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Entrepreneurial Orientation

Part -1 circle the. numbers in the following scales which best describe the entrepreneurial orientation of your business. Always answer by circling the correct digit. Circle number "1" if the statement on the left-hand side of the scale describes your reaction to the item. Circle number "5" if the statement on your right side of the scale best describes your reaction to the item. Circle numbers "2" through "4" depending upon your best estimate of an intermediate position.

Sr. No	Questions	Strongly Disagree		Neutral	Strongly Agree	
		1	2	3	4	5
1	Our business is creative in its methods of operationEOI1	1	2	3	4	5
2	We always try to take the initiative in every situation (e.g., against competitors, in projects and when working with others) EOI2	1	2	3	4	5
3	We actively introduce improvements and innovations in our business EOI3	1	2	3	4	5
4	We excel at identifying opportunities EOP1	1	2	3	4	5
5.	We always try to take the initiative in every situation EOP2	1	2	3	4	5
6.	We initiate actions to which competitors respond EOP3	1	2	3	4	5
7	People in our business are encouraged to take calculated risks with new ideas EOR1	1	2	3	4	5

8	Our business emphasizes both exploration and experimentation for opportunities EOR2	1	2	3	4	5
9	The term 'risk taker' is considered a positive attribute for people in our business EOR3	1	2	3	4	5

Dynamic Capabilities

Part 2- The below questions are based on the various capabilities manifested by the firm. Please circle the correct numbers with your best assessment about the statements.

Sr. No	Questions	Strongly Disagree		Neutral		Strongly Agree
	In my organization ...					
10	As a company, we know how to access new information. DCSS1	1	2	3	4	5
11	People participate in professional association activities. DCSS2	1	2	3	4	5
12	We observe best practices in our sector. DCSS3	1	2	3	4	5
13	We can perceive environmental change before competitors. DCSS4	1	2	3	4	5
14	We have systemic search routines by established processes to identify target market segments, changing customer needs and customer innovation. DCSS5	1	2	3	4	5
15	We are effective in utilizing knowledge into new products. DCRDM1	1	2	3	4	5
16	We can make timely decisions to deal with strategic problems. DCRDM2	1	2	3	4	5
17	We respond to defects pointed out by employees and customer feedback. DCRDM3	1	2	3	4	5
18	We recognize what new information can be utilized in our company. DCRDM4	1	2	3	4	5

19.	In last five years, we have implemented new kinds of management methods. DCRC1	1	2	3	4	5
20.	By defining clear responsibilities, we successfully implement plans for changes in our company. DCRC2	1	2	3	4	5
21.	In the last five years our organization has substantially renewed its business processes. DCRC3	1	2	3	4	5
22.	In the last five years, the firm has implemented new or substantially changed ways of achieving our targets and objectives. DCRC4	1	2	3	4	5
23.	Decisions on planned changes are pursued consistently in our companyDCRC5	1	2	3	4	5

Environmental Dynamism

Part -3 Please answer the following questions with regards to your main industry. Answer by circling the correct digit. How intense is each one of the statement below in your principal industry? Please circle the number in approximates the actual conditions in it each scale that best.

24.	The products/service in our industry updates quicklyED1	1	2	3	4	5
25.	The actions of competitors are difficult to predictED2	1	2	3	4	5
26.	The technology in our industry progresses quicklyED3	1	2	3	4	5
27.	To predict change of customer needs is difficult.ED4	1	2	3	4	5

Competitive Advantage

Part 4- The following statements are related to your assessment about the performance of the firms in regards to the competitive dynamics. Please circle the right digit which objectively concurs with your best opinion regarding the performance indicators for the firm.

- | | | | | | | |
|-----|---|---|---|---|---|---|
| 28. | The market share of the firm is above average.CA1 | 1 | 2 | 3 | 4 | 5 |
| 29. | The growth of market share is above average.CA2 | 1 | 2 | 3 | 4 | 5 |
| 30. | The overall competitive position of firm is very high.CA3 | 1 | 2 | 3 | 4 | 5 |
| 31. | The growth in return on investment is above average.CA4. | 1 | 2 | 3 | 4 | 5 |

Demographics and other details:

- 1, Industrial Sector of the firm: _____
2. Legal form of the firm: _____
3. Year of establishment: _____
4. Number of full - time employees: _____
5. Number of full- time employees:
12 months ago: _____
6. Annual Turnover (optional): _____

Fully anonymized recommendations will be posted to you upon completion of this research. Kindly fill in the following details for the same.

Company name:

Address of correspondence:

E-mail:

Thank you very much for your participation

Appendix – C- Correlations among the variables of the study

	GEN DER	AGE	WORK - EX	Resp. r'ship	EDUCA TION	FIRM SIZE	FIRM AGE	Firm Type	EO	EO P	EOR	EOI	DC	DCS S	DCR D	DCR C	ED	CA
GENDE R	1																	
AGE	.171* *	1																
WORK EX	.184* *	.718* *	1															
Resp- r'ship	-0.092	- 0.095	-0.052	1														
EDUCA TION	0.031	0.05	0.068	0.021	1													
FIRMSI ZE	0.12	.266* *	.250**	.235**	.168**	1												
FIRMA GE	0.044	.291* *	.213**	0.079	0.012	.386**	1											
Firm Type	- .215* *	- .291* *	- .232**	0.059	-0.046	- .372**	- .238**	1										
EO	0.105	0.054	0.046	-0.008	0.098	-0.04	-0.086	-0.075	1									
EOP	0.079	0.024	-0.002	-0.024	0.114	-0.027	-.159*	-0.02	.843**	1								
EOR	0.111	0.069	0.076	0.054	0.086	-0.092	0.008	-0.027	.799**	.51 1**	1							
EOI	0.074	0.043	0.044	-0.044	0.043	0.014	-0.054	-.138*	.834**	.55 3**	.503 **	1						
DC	-0.018	0.117	.160*	-0.029	0.08	0.102	0.088	-0.024	.458**	.42 2**	.308 **	.399 **	1					
DCSS	-0.066	0.039	.144*	-0.031	0.046	0.086	0.061	0.041	.315**	.31 3**	.228 **	.235 **	.778 **	1				
DCRD	0.04	0.085	0.095	-0.084	-0.003	-0.009	0.07	0.015	.373**	.39 3**	.222 **	.300 **	.659 **	.328 **	1			
DCRC	0.001	.132*	0.103	0.039	0.118	.128*	0.061	-0.105	.317**	.22 9**	.218 **	.338 **	.720 **	.295 **	.218 **	1		
ED	-0.041	- 0.016	0.028	0.004	-0.117	-0.028	-0.108	0.01	0.031	0.0 12	0.08	0.00 9	0.09 2	0.05 4	0.03 6	0.10 4	1	
CA	0.007	- 0.053	0.008	0.102	0.072	0.105	0.018	-0.055	.587**	.54 6**	.321 **	.572 **	.379 **	.268 **	.296 **	.265 **	-0.115	1

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

* . Correlation is significant at the 0.05 level (2-tailed).

Appendix D- Research Protocol

Aim	To investigate the role played by entrepreneurial orientation and dynamic capabilities individually and collectively for contributing towards SME competitive advantage in dynamic business environment
Research Objectives	<p>(1) Measure the impact of entrepreneurial orientation on SME growth</p> <p>(2) Determine the nature of SME dynamic capabilities by assessing their direct effects and strongest contributions to SME growth.</p> <p>(3) Detect the effects of dynamic capabilities on the entrepreneurial orientation SME growth association</p>
Research Questions	<p>(RQ1). What is the magnitude (impact) of unidimensional and multidimensional effects of Entrepreneurial orientation on SME growth?</p> <p>(RQ2). Do environmental dynamism have a direct effect on firm competitive advantage?</p> <p>RQ3 Do environmental dynamism moderate entrepreneurial orientation- firm competitive advantage relationship?</p> <p>(RQ2) Do dynamic capabilities have a direct effect on firm competitive advantage?</p> <p>(RQ4) Is the relationship between entrepreneurial orientation and firm competitive advantage mediated by dynamic capabilities?</p>
Hypotheses	<p>Base Models</p> <p>Moderation</p> <p>Mediation</p>
Research Design	<p>Cross-sectional</p> <p>Non-experimental research design</p> <p>A cross- sectional non-experimental design has been embraced and employed a questionnaire survey for collecting data from SMEs-organizations with less than 50 employees in India</p>
Survey Design	Questionnaire survey
Level of Analysis	Firm Level
	<p>a) Criterion: Firm age</p> <p>Firm Age categories</p> <ol style="list-style-type: none"> 1. 5-15 2. 16-25 3. 26-35 4. 36-50

	<p>5. 50+</p> <p>b) Criterion: Firm size Firm Size categories</p> <ol style="list-style-type: none"> 1. 1-25 2. 26-50 3. 51-75 4. 76-100 5. 100+ <p>c) Respondent relationship with the firm</p> <ol style="list-style-type: none"> 1-Founder/Owner /Entrepreneur 2-Family relation with Founder/Owner 3-Professional/ Manager <p>e) Educational Qualification level:</p> <ol style="list-style-type: none"> 1.-Bachleors degree 2.-Master’s degrees 3.-Doctorate degrees 4.-Others (Diploma, Associates etc...) <p>f) Respondent Age</p> <ol style="list-style-type: none"> 1- Under 30 years 2- 31-40 years 3- 41-50 years 4- Over 50 years <p>g) Under 10 years</p> <ol style="list-style-type: none"> 2-10-20 years 3-21-30 years 4-31-40 years 4-Over 40 years <p>Industry characteristics</p> <ol style="list-style-type: none"> 1- Manufacturing 2- Trading 3- Professional /Scientific /Technical Services 4- Hospitality/Food 5- Others
Pilot Study	<p>Semi-structured interviews</p> <p>Questionnaire collection</p> <p>Reliability analyses</p> <p>Exploratory factor Analyses</p>
Context of Inquiry	<p>Indian small and medium enterprises</p> <p>Easier access to data collection sources</p> <p>Substantial awareness of Indian SME characteristics</p>

Appendix E -TABLE linking Gaps-themes-implications (section 8.3.1- Literature gaps and their linkages with themes)

Sr. No	GAPS	LINKAGE WITH THEMES	IMPLICATIONS
1	<ul style="list-style-type: none"> • EO dimensionality : <p>There was ambiguity observed in the literature in terms of dimensional effects and lack of sufficient evidences on SMEs'. This Gap in research called for attention on the relationship between EO and competitive advantage of SME with respect to the manifestation of EO as uni-dimensional and /or multidimensional construct</p> <ul style="list-style-type: none"> • EO country context research: <p>EO has remained underexamined and scanty in many emerging economies such as Brazil, India and Russia (Wales et. al., 2013).</p>	<p>The observed gap from literature review is linked with the first theme of thesis which is concerned with the examination of how entrepreneurship contributes towards (small) firm competitive advantage in emerging economy. This covers examining whether EO affects as unidimensional or multidimensional mode and their relationship to competitive advantage of SME (Savlovschi, L. I., & Robu, N. R. 2011, Nikiforou, A., Dencker, J. C., & Gruber, M. 2019)</p>	<p>Implications for theory</p> <ul style="list-style-type: none"> • The causal relationships between entrepreneurial orientation and competitive advantage would also depend on how EO is conceptualized. • Findings of this theme contribute and expand the knowledge boundaries of the domain of entrepreneurship (Aldrich and Baker, 2000). This is an important contribution as the incompetently defined or misjudged boundaries can risk the credibility and legitimacy of entrepreneurship research (Busenitz et. al., 2003). • Firm-level EO is rooted in the interplay of drivers at various levels. <p>Implications for practice</p> <ul style="list-style-type: none"> • The owners, entrepreneurs and senior managers in SMEs should understand that while cultivating entrepreneurial traits in themselves, they also sow the seeds for generating competitive advantage for their firms. • Importance of formulating strategic intent of developing entrepreneurial orientation within the firms. • SMEs' entrepreneurs and senior managers should develop firm-level entrepreneurial behaviour for enhancing competitive strategy. In other words, EO needs to be associated with strategy of the firm. This implication is relevant especially for SMEs that targets niche markets where growth opportunities could be challenging but competitive advantage is necessary.

			<ul style="list-style-type: none"> EO is manifested as multidimensional construct and the three traits of proactiveness, innovativeness and risk-taking exist and effect individually the outcomes. Therefore, SMEs with resource constraints, could focus on specific dimensions of EO initially that match with their strategy and their typical EO profile
2.	<ul style="list-style-type: none"> Most of the studies on dynamic capability concept are conducted for large firms (e.g. Barreto, 2010; Teece, 2007; Wang and Ahmed, 2000). However, the research findings large firms context are difficult to generalize for SMEs. There is sparse literature on the relationships concerning dynamic capabilities and SMEs in all the domains. Performance implications of DC for SMEs remains unestablished at least empirically and appears vague and unclear (Zahra et al., 2006; Eisenhardt and Martin, 2000; Zott, 2003, Teece et al., 1997). Gap relates to call for studies related to nature of Dynamic Capabilities in SME and operationalization of dynamic capabilities considering the innate SME characteristics 	<p>This literature Gap is linked to the second research theme which is examining the nature and character of dynamic capabilities. It is an attempt to bridge the gap with credible findings in the domain of emergence and effects of dynamic capabilities in SMEs. where research questions are developed aiming to 'demystify' nature and character of SME dynamic capabilities. As such, these questions navigate the research efforts towards identifying the direct effects of dynamic capabilities on SMEs' growth as well as understanding their mechanism.</p>	<p>Implications for theory</p> <ul style="list-style-type: none"> This thesis contributed in theoretical understanding of whether this internal higher order construct demonstrates its effect for raising the competitive strength of SMEs. By providing a unique conceptualization of three branches of dynamic capabilities, the research tried to reduce the lack of agreement concerning the conceptualization of dynamic capabilities (Albort-Morant & Ribeiro-Soriano, 2016). This research included and tested additional contingency in the DC – competitive advantage relationship by considering SME context. This research contributed to the call for normative theory development by explicitly conceptualizing SME dynamic capabilities as –Strategic sense making, Responsiveness and Decision making and Reconfiguring ability. <p>Implications for practice</p> <ul style="list-style-type: none"> Purposeful development of dynamic capabilities which are aligned with the defining characteristics of SMEs (adhocracy) has positive implications for competitive advantage and growth. It is imperative for managers and entrepreneurs to develop and nurture their dynamic capabilities to drive their performance (Arend, 2014).

3	<ul style="list-style-type: none"> The literature review revealed a systematic gap in studying the combination of entrepreneurship related effects and the role played by internal, higher order knowledge based SME's dynamic capabilities whose benefits ranged from mere problem solving to reconfiguring the asset base of the firm for generating and sustaining competitive advantage in rapidly changing environment. For the concept of entrepreneurship, external characteristics relate to linkages with firm context, performance, and external business environment (Covin, J. G., & Lumpkin, G. T. 2011). The functional linkages among entrepreneurship and the internal environment of the firm constitute the external characteristics that are underexplored in the research. 	<p>This gap is addressed by the fourth research theme i.e. the examining the combined effect of EO and DC on competitive advantage .</p> <p>The associated research question is</p> <p>What is the mechanism by which higher competitive advantage is achieved with indirect role played by dynamic capabilities by mediating between the relationship of EO and competitive advantage?</p>	<p>Implications for theory</p> <ul style="list-style-type: none"> The research provided meaningful and worth exploring contributions on understanding how the different theory streams of entrepreneurship and strategic management combine and interact with each other and offer empirical answers by way of mediation analysis that a higher order layer can be formed by these two constructs. It implies that there are internal functional activities which can be in action for sustaining SME competitive advantage. While presence of DC is well acknowledged for competitive advantage, its intervention with EO for competitive advantage effects is questionable. This means that DCs are present in SMEs and effective as stand-alone constructs but their interactions with other constructs is yet not fruitful, this is something that the theory has to examine. It extends current thinking by introducing a novel understanding of SMEs' high-performance entrepreneurship <p>Implications for practice</p> <ul style="list-style-type: none"> Since both of these constructs contribute positively to competitive advantage, it is necessary to cultivate and maintain both of them. However, this should be implied that SMEs would not typically remain small throughout their venturing process. SME growth orientation should not be just increase in size and resources but in terms of development of internal firm processes that will augment its willingness and commitment for growth. <p>Overall implications for policy makers</p> <ul style="list-style-type: none"> The policy makers should facilitate SMEs in such ways that sustainable differentiation is created through the SMEs. This may bring more innovation and create more jobs in the market. SMEs should be provided with suitable
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			<p>managerial infrastructures and professionalization apparatus accordingly. In short, the right chord of growth has to be stroked.</p> <ul style="list-style-type: none"> • The research framework may SMEs to develop competitive advantages by appropriating value from the opportunities identified (Ireland et. al., 2003). <p>Implication for large firms</p> <ul style="list-style-type: none"> • Large firms may consider these recommendations in the domain of inculcating corporate entrepreneurship where each venture is treated as a small entrepreneurial firm. Based on the findings of the research in this thesis, this should stimulate growth and competitive advantage potential within a large firm.
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