UNLOCKING THE RELATIONSHIP BETWEEN CORPORATE ENTREPRENEURSHIP AND PERFORMANCE

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UNLOCKING THE RELATIONSHIP BETWEEN
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Corporate entrepreneurship is the implementation of a value creation process in an organizational setting. Consistent with the Schumpeterian understanding of entrepreneurship, a "new combination" that should directly affect the performance of the firm is formed; and the process of forming this new combination manifests itself as an outcome of a complex social mechanism affected by internal and external factors. However, in spite of the biasing anecdotal evidence, conventional wisdom, and tendency in favor of entrepreneurship, a "black box" between firm-level entrepreneurship and performance has pervaded the relationship.

Nevertheless, the model proposed in this study brings a totally new and distinguishing line of sight into the firm-level entrepreneurship literature: rather than being an equivalent, the entrepreneurial orientation construct is treated as an antecedent of corporate entrepreneurship; moreover the behavioral construct of corporate entrepreneurship is placed in between this strategic posture and performance, to complete "the missing" link between firm-level entrepreneurship and performance.

Only under this formulation of roles and meanings attached to both terms, is it possible to find a solid, conclusive, and systematic direct positive relationship between firm level entrepreneurship and performance. Empirical findings strongly confirm this proposed hypothesis, making this formulation the most important contribution of this study.

In other words, parallel to resource based view of the firm, organizational culture with environmental context, does feed entrepreneurial orientation; the extent to which this disposition will be successful in turning to a new combination and good performance consequently depends upon the common and contextual variables.

KURUMSAL GİRİŞİMCİLİK VE PERFORMANS İLİŞKİSİ

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Kurumsal girişimcilik, rekabetin giderek yoğunlaştığı ve arttığı bugünün "kurumsal olimpiyatlarında" rekabet avantajı yaratmak ve daha da önemlisi bu avantajı sürdürülebilir kılmak için gerekli bir değer yaratma sürecinin örgüt içerisinde uygulanmasıdır.

Bu çalışmada, kaynak temelli görüşe paralel olarak, değerli, az bulunur, kopya edilmesi ve ikame edilmesi zor bir kaynak olmaya en uygun ve olası aday olan kurum kültürünün, bir eğilim ve niyet olarak tanımladığımız girişimci oryantasyonunu beslediği ve bu oryantasyonun da iç ve dış çevresel faktörlerle kurumsal girişimcilik öncüllük rolü üstlendiği tartışılmıştır. Ayrıca yazından farklı olarak iddia edilmiştir ki, kurumsal girişimcilik değişkeni girişimcilik oryantasyonu ile performans arasında davranışsal bir ara değişken rolü üstlenmektedir. Ancak bu ayrım ve rollerle kurumsal çerçevede girişimcilik ile performans arasındaki ilişkinin doğru tesis edilebileceği savunulmuştur.

Sonuçlar, kurumsal girişimcilik değişkeninin girişimcilik oryantasyonu ile performans arasında ara değişken rolü taşıdığını ana hipotezini destekler niteliktedir. Umut ederiz ki, kurumsal girişimcilik mekanizmasını hem bağımlı hem de bağımsız anlamda girişimciliğe son derece fazla ihtiyaç duyan, girişimcilik açısından teşvik edici şartların az olduğu (ekonomik ve kültürel anlamda), gelişmekte olan bir ülke ekonomisinde incelemek literatürdeki bilgi birikimin zenginleştirilmesine önemli bir

katkı sağlayacak, sonuçları itibariyle Türkiye iş dünyası ve dolayısıyla ülke ekonomisi açısından yapılması gerekenler konusu tartışmaya açılacaktır.

To my sons, whose even potential existence provided the major inspiration for me to begin this journey.

Erdem's entrance into the world during the first year of my doctoral program gave me the initial encouragement and decisiveness to embark upon this road; *Selim's* arrival during the last year of the program offered the final motivation necessary to finish. I dedicate this work to both of them.

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I hope thus that this dissertation as a final product can be easily understood as more than my individual accomplishment, but the product of involvement from many individuals, of whom only a few have been identified here. Nevertheless, any oversight, error, and or flaw that might have been overlooked in this dissertation are utterly of my own making.

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1.
INTRODUCTION

Constructs such as entrepreneurial orientation, corporate entrepreneurship, organizational culture, environmental context, and managerial support, constitute the broad scope of this thesis. As synergistic entities, these constructs' impact upon performance has long been examined and acknowledged. Nevertheless, the model proposed in this study, brings a totally new and distinguishing line of sight into the firm-level entrepreneurship literature: rather than being an equivalent, the entrepreneurial orientation (EO) construct is treated as an antecedent of corporate entrepreneurship (CE) and the behavioral construct of CE mediates this strategic posture and performance, to fill-out "the missing" link. The study below, outlines the framework behind this model's reasoning, describes the hypotheses developed, and presents the results of the empirical research realized in the context of an emerging economy, namely Turkey.

1.1. The Motivation

In today's more global, volatile, and competitive than ever "corporate Olympics" (Kanter, 1989) creating an entrepreneurial organization is one of the utmost dreams of business life (Zahra, Neubaum, & Huse, 2000). Apart from practitioners, the challenge of "intrapreneuring" inside an organization designed to administer, maintain, and protect the status quo have attracted many academicians as well (Guth & Ginsberg, 1990). Both by practitioner oriented gurus (Kanter, 1989; Peters & Waterman, 1982; Pinchot, 1985) and academic studies (Covin & Slevin, 1989; Guth & Ginsberg, 1990;

Lumpkin & Dess, 1996; Zahra, 1996), CE i.e., "entrepreneurship within an existing organization" has been seen as a recipe for long-term success (Birkinshaw, 1999).

However, in spite of the biasing anecdotal evidence, conventional wisdom, and tendency in favor of entrepreneurship (Wiklund, 1999), a "black box" between CE and performance[1] still pervades the relationship (Dess et al., 2003). Given that many authors view the quest to explain performance as the cornerstone of the strategic management field (Rumelt, Schendel, & Teece, 1994), with its roots in this tradition, CE literature has not been able to offer solid findings regarding this search (Rauch, Wiklund, Frese, & Lumpkin, 2004). Although Zahra et al. (1999) have characterized the CE – performance relationship as an active, fruitful research area in their review paper almost a decade ago, empirically mixed results (Wiklund & Shepherd, 2005) still exist.

For some scholars, this inconclusiveness of past research indicates a more complex relationship between performance and firm-level entrepreneurship. Lumpkin and Dess (1996), in their conceptual model have suggested that factors internal and external to the firm may mediate / moderate the relationship between CE and performance and urged researchers to investigate the phenomenon through this angle. However, due to the scarcity of research directly addressing the issue during the intervening years (Wiklund & Shepherd, 2003), the call has recently been renewed (Covin, Green, & Slevin, 2006; Rauch et al., 2004; Wiklund & Shepherd, 2003; 2005).

Therefore, it is still worthwhile to ask the following questions: what is "missing" in the so long proposed relationship between CE and performance, which variables influence such relation, and what possible effects do they have? In answering these questions empirically in the context of an emerging economy, this study makes two central contributions to the field. The first is examining the EO phenomenon as an antecedent of CE rather than its equivalent and the second, investigating the so far neglected effect of organizational culture (OC).

Based upon the premises of Schumpeterian understanding of entrepreneurship, this thesis utilizes the classical "contingency framework" (CF) and the more recent "resource based view (RBV) of the firm" to respond to the aforementioned call. By filling in the gaps of prior research, this thesis aims to clarify the phenomenon of CE and its relationship with performance through a comprehensive model. The basic

[1] Whenever the term "performance", here and in other parts of the manuscript is used, the construct "financial firm performance" is implied.

motive is to assist the group of researchers in opening up the black box pervading the CE – performance relationship and enlightening the complex mechanism behind CE.

As in the case of all social sciences, the main context surrounding the sample of the study may very well bear emic reflections of the phenomenon. Turkey with her unique cultural features, where this study is realized, offers such reflections as well. On the one hand, Turkey traditionally does not have a strong economic and cultural infrastructure supporting an entrepreneurial environment. On the other hand, as an emerging economy, she is entering a transition phase, where the dynamic structure of the context forces organizations to change and be more creative than their competitors in developed economies, so as to survive (Tan, 2007). Examining the proposed relationships in such a contradictory, emerging economy might better shed light upon, in lieu of studying in the highly supportive entrepreneurial infrastructure and economic conditions of advanced countries where most of the studies have been previously realized (Bruton, Ahlstrom, & Obloj, 2008). Undoubtedly, this different lens promises to offer valuable insights in understanding entrepreneurship in general, and CE, in particular (Zahra, 2007).

1.2. The Model

For Schumpeter (1934), the father of the contemporary study of entrepreneurship, an entrepreneur can be any individual either outside or inside the organization: at the bottom, middle, or top. In essence, nothing (who, when, how, how long, for what) is more important than function, i.e. bringing out the "new combination". On the other hand, research about the entrepreneur inside the firm, basically bears an implicit and misleading assumption that a firm conducts or should conduct CE functions, if it has this strategic orientation, called as entrepreneurial. However, as in other strategic orientations (marketing, learning, alliance, etc.) in the strategy literature, EO demonstrates only a posture towards desired behavior (Atuahene-Gima & Ko, 2001). In fact, EO has already been conceptualized (Miller & Friesen, 1982) and utilized so far as a strategic disposition assessment index. Pursuant to the dispute between traits vs. behavioral approach in the entrepreneurship literature, this study however focuses more on the function and what the entrepreneur "does", rather than the inclination and "who"

the entrepreneur is. As an individual's psychological profile does not make a person an entrepreneur, so should it follow that non-behavioral organizational level attributes not make a firm entrepreneurial (Covin & Slevin, 1991). Behavior rather than attributes should symbolize the entrepreneurial process, as "entrepreneurs are known through their actions" (Covin & Slevin, 1991).

What makes the assumption of EO and CE equivalence more "interesting" (Davis, 1971) and misleading, is the lack of systematic, empirical evidence that EO leads to improved performance (Covin & Slevin, 1991; Wiklund & Shepherd, 2005; Zahra, 1991). Beyond Miller and Friesen's (1982) warning that excessive entrepreneurship can harm performance, a number of researchers (Hart, 1992; Kanter, 1989; Smart & Conant, 1994; Sykes, 1986; Sykes & Block, 1989) have reported CE failures and noted the inconclusiveness of the empirical link between EO and performance. In their meta-analysis Rauch et al. (2004) have found "considerable variation in the magnitude of the correlation between EO and performance beyond what can be explained by sampling error". Dess et al. (2003) have labeled this variation as a "black box" pervading the literature, in their review article.

This incomplete picture has signaled a more complex relationship between EO and performance and indicated the possibility of some other variables' existence, internal and external to the firm, that intervenes and moderates the strength of the relationship (Lumpkin & Dess, 1996; Rauch et al., 2004). Recently researchers have responded to this call and examined this incomplete picture of performance (Moreno & Casillas, 2008; Wang, 2008; Wiklund and Shepherd, 2003). While Wiklund and Shepherd have tested the role of knowledge based resources, Wang has investigated the role of learning orientation, and Moreno and Casillas (2008) have focused on the growth component of the performance.

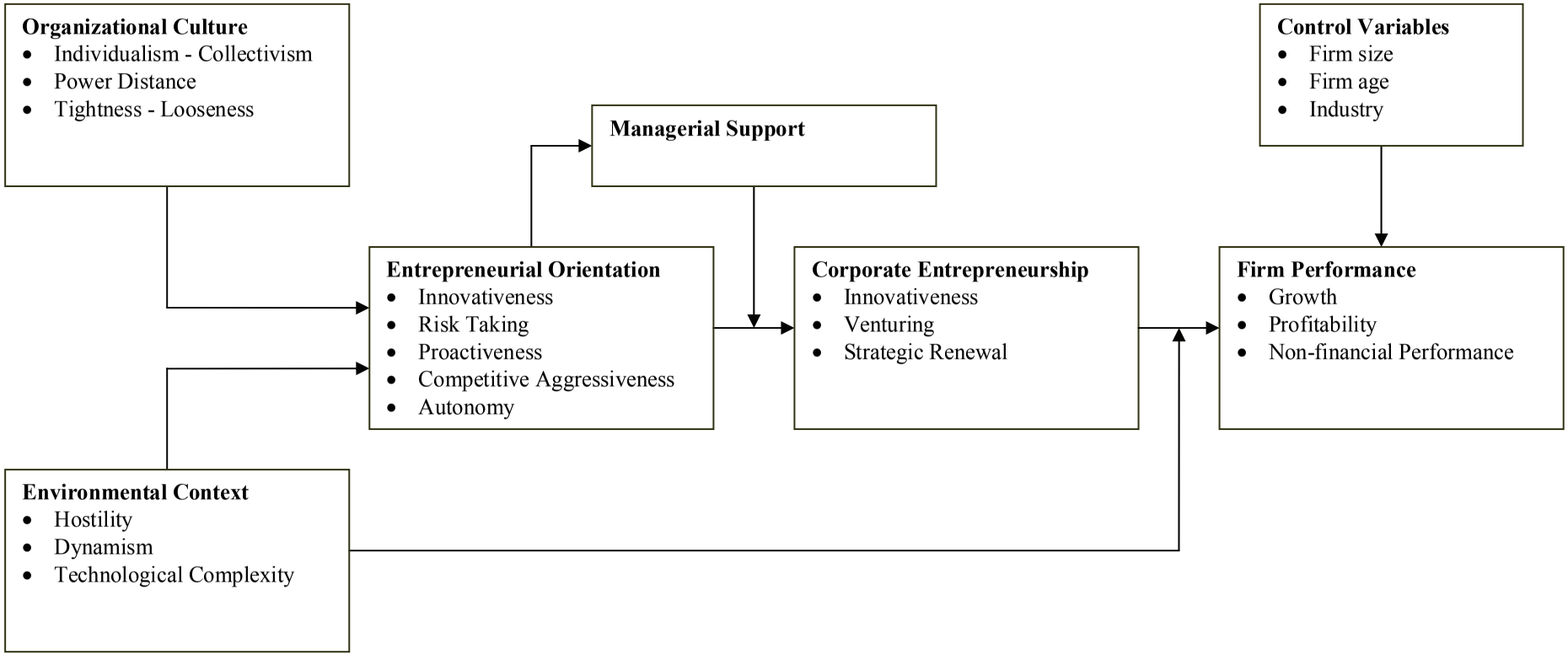
However, above and beyond these moderating factors, this research tries to attract attention to a more basic and important factor mediating this relationship: the function of CE itself, i.e. actual CE behavior / outcome. Thus, unlike the previous literature, rather than an equivalent of CE, this study treats EO as a higher order strategic orientation / posture that affects CE outcome and behavior directly, and indirectly with the support mechanisms itself may trigger. To some extent, this formulation parallels the conceptualization of market (Slater & Narver, 1995) and alliance orientation in marketing (Kandemir, Yaprak, & Cavusgil, 2006) where the strategic orientation precedes the behavior and performance on that phenomenon. Moreover it is possible to

establish similarities between the proposed trust model of Mayer, Davis, and Schoorman (1995). In this framework, the EO that takes shape with the appropriate organizational culture and environmental context is treated as a key antecedent to CE and CE serves as a mediating construct between EO and performance. Although EO serves as the basic determinant of CE, the extent to which this disposition will be successful in turning to a new combination and good performance consequently, depends upon the other "common" (Barney, 1991) and contextual variables moderating the mechanism. In other words, consistent with the Schumpeterian understanding of entrepreneurship which will be summarized later in the manuscript, the entrepreneur inside the organization forms a new combination (an example of CE behavior) which should directly affect the performance of the firm; and the process of forming this new combination manifests itself as an outcome of a complex social mechanism affected by internal and external factors. The proposed mechanism is visualized in a comprehensive model (see Figure 1.1) formulated parallel to conceptual models suggested previously in the literature (Covin & Slevin, 1991; Lumpkin & Dess, 1996; Zahra, 1993a).

In their conceptual article, Covin and Slevin (1991) have proposed that in order to be reasonably adequate in scope, a firm-behavior model of entrepreneurship should include environmental, organizational, and individual-level variables and going beyond the depiction of direct effects, should incorporate indirect, contingency, and moderating effects. Parallel to this proposition, this study builds a model exploring the direct, indirect, and interaction effects of three antecedents of CE: EO, referring to the strategic component of Covin and Slevin's (1991) conceptual model; environmental; and organizational factors, on the ultimate dependent variable: performance. Individual-level variables are not included into the model as the issue is considered and treated as a firm-level construct, and, more importantly, as a consequence of the theoretical doctrine the researcher feels allied. In designing the model, the foremost agreed upon factors were sought while keeping the number of variables adequate, manageable, and theoretically relevant. Accordingly, the dimensions were selected through a literature review focused on identifying the areas most relevant and prominent to the pursuit of corporate entrepreneurship. The model envisions the following below.

Figure 1.1

The firm-level entrepreneurship model



In corporate Olympics, where competition increasingly intensifies, creating and more importantly sustaining competitive advantages are (or should be) the main rationale behind succeeding in business. In reaching this goal, there are mainly two competing (complementary for some) views. On one hand, the organizations are part of an environmental context that they can hardly control and where firms are identical (homogeneously distributed) in terms of the strategically relevant, highly mobile resources they control, and the strategies they pursue (Porter, 1981). On the other hand, the internal resources (physical capital, human capital, and organizational capital) they had acquired at some point in time and space through their unique history, offer a valuable, rare, perfectly inimitable, and a unique tool to differentiate and thus compete (Barney, 1991). In line with this second view, Barney (1991:102) defines sustained competitive advantage as the "implementation of a value creating strategy not simultaneously being implemented by any current or potential competitors" and which "competitors are unable to duplicate the benefits". This study argues that Schumpeterian entrepreneurship, which will be examined in more detail in the following chapter, exactly corresponds to this value creation process and thus, RBV is a relevant approach toward understanding CE (Teng, 2007). In other words, the "new combination" created either through venturing, innovation, or renewal should offer the competitive advantage of never having been implemented and lead consequently to improved performance.

For sure, the inability to duplicate this new combination in the future mostly depends upon the attributes of the source the CE stems. To offer sustainable competitive advantage, the RBV of the firm demands that the resources should be valuable, rare, imperfectly imitable, and insubstitutable, i.e. historically unique, causally ambiguous, and/or socially complex (Barney, 1991). Organizational culture, with its ambiguous and socially complex structure, which has ties in the history or founder of the organization, definitely adheres to an ideal, imperfectly imitable resource set potential. However, in parallel with Hult, Ketchen, and Slater (2005), cultural elements are conceived as vital to attaining a competitive advantage but subtly. In other words, in parallel to RBV of the firm, it is hypothesized that organizational culture does feed an orientation identified as entrepreneurial which itself is an inclination, and inspiration that leads to entrepreneurial behavior or CE outcome.

Though an important antecedent, OC cannot be the only nourishment center of EO. Organizations do not operate independent of their environments. The

environment, which has long been considered as one of the critical contingencies in organization theory and strategic management (Child, 1972), plays an important role in executives' pursuits of CE as well. In particular, executives' perceptions of their environment frame their definitions of the issues facing their company and actions (Simsek, Veiga, & Lubatkin, 2007; Zahra, 1993b; Zahra & Pearce, 1990; Zahra, Sapienza, & Davidsson, 2006). Thus the initial effect of environmental factors should be upon the formation of EO, in the minds of the top management.

Such a strategic posture may reflect itself in the form of managerial support mechanisms. As operationalized in the construct, this support can take many forms, from providing necessary resources (including time) and expertise to championing innovative ideas, and from tolerance for failure to the appropriate use of rewards. Furthermore, entrepreneurial style per se is not necessarily effective in all situations, at all times, at the same level. As Covin and Slevin (1988:218) put it, "while this possibility is at odds with what conventional wisdom would seem to suggest about entrepreneurial management, it is consistent with the literature which argues that organizational performance is enhanced when there is good "fit" between management style and various contextual factors." Supportive action by management is one of the internal contextual variables that may interact with this relationship.

Consequently, tied to the RBV and the contingency framework (Miller, 1988), and building upon the existing literature (Lumpkin & Dess, 1996; Wiklund, 1998; Wiklund & Shepherd, 2005; Zahra, 1991), it is proposed that the confluence of organizational culture and the supportive environment outside the whole organization can create a unique strategic entrepreneurial posture. This posture may lead to new combinations either directly or indirectly through support mechanisms. When the new combination is created, although the strength of its effect may change in accordance with environmental factors, improved performance should be unavoidable. Thus, looking through the behavioral lens should make the relationship solid. This study aims to analyze the above summarized relationship mechanism through this distinguishing lens and context.

1.3. The Contribution

The main innovation of this study is to end EO – CE equivalence and simultaneously bring both constructs on the stage. EO is treated here as an antecedent / mediating strategic variable between CE and unique organizational and common environmental factors. Moreover the CE construct proposed to mediate EO and performance. Reminding readers of the old debate in entrepreneurship literature between trait and behavioral approaches and what Gartner (1988) has asserted, "which company is entrepreneurial?" is the wrong question. In this regard, CE is measured in parallel to Schumpeterian entrepreneurship in terms of "what" and "realized new combinations" rather than dispositions. Modifying the problematic EO measure (Lumpkin & Dess, 2001; Smart et al., 1994) or disregarding it totally and offering new assessment indices as previously done in the literature (Antoncic & Hisrich, 2003; Davidsson & Wiklund, 2001; Zahra, 1996) should not clarify the complex mechanism behind CE. Instead, rather than a sole indicator of CE, EO should be treated as an antecedent strategic variable. It is envisioned that such a structure will enlighten much of the missing parts and finalize long-going debates about EO – performance relationship.

In addition to this primary conceptual contribution, this study also stresses the importance of organizational culture in enabling entrepreneurial behavior, and increased firm performance in turn. Researchers, in recognizing organizational culture's potential influence on EO, have called long before for an examination of the relationship between organizational culture and EO (Covin & Slevin, 1989; 1991; Pearce, Kramer, & Robbins, 1997). However, the influence of organizational culture on a firm's ability to develop, maintain, or enhance entrepreneurial orientation has not been adequately measured empirically. The current study responds to this void and aims to better illuminate the complex structure behind CE by testing the role of the mostly ignored, "residual" (Schneider, 1989) organizational culture phenomenon. Three (two for the first time in CE literature) organizational culture dimensions that reflect societal culture are incorporated as the antecedents of the EO construct.

Moreover, EO is measured as a five dimensional concept, as suggested by Lumpkin and Dess (1996). Although credited and cited to a great extent, the five dimensional model has been tested in very few (Hughes & Morgan, 2007) empirical

studies. This five dimensional model is also expected to better explain the mediating role of EO.

Furthermore, past research has examined the EO correlates' (organizational and environmental factors, and performance) relationship with the EO either by connecting two or more of these together or by studying a specific relationship. There have been only a few studies (Antoncic & Hisrich, 2004) where corporate entrepreneurship models were built and explored empirically. This study will be one of those comprehensive empirical studies.

Additionally, most of the literature thus far has been conducted on large-scale Western firms (Bruton et al., 2008). Little is known in particular, of entrepreneurship in emerging economies that are increasingly moving to market orientation and seeking to rapidly advance economically. Thus, there is a strong need to understand entrepreneurship in emerging economies (Zahra, 2007). Therefore, the exploration of possible effects of these variables on the performance of organizations with a set of data collected from an emerging market, i.e. Turkey, will extend the literature. Investigating this complex mechanism of CE in the context of an emerging economy that strongly needs entrepreneurial behavior both individually (independent) and corporate-wise (dependent), and has a highly different cultural background than western developed economies, will definitely contribute to the on-going effort of improvement of knowledgebase in the literature.

Last but not least, as highlighted by Zahra, Ireland, Gutierrez, and Hitt (2000), CE is the key for emerging economy firms to revitalize, reconfigure resources, and transform into market-oriented firms that are ready to compete in the global economy. This study will definitely offer practical implications both for managers and policy makers in emerging economies in developing and improving CE towards reaching this aim.

1.4. The Context

As Zahra (2007) claims, integration of the contextual nature of emerging economies into entrepreneurship research, to expand the understanding of emerging economy entrepreneurship or to generate new theory would be very insightful. Turkey,

a well-accepted emerging economy[2] where this study will be realized, exists in a "transition" as all emerging economies, and with her unique cultural features offers such an opportunity. Thus, the issues presented here may be particularly salient for emerging / developing / transition economies as well as developed economies.

"Transition economy" combined with the very term "globalization" represents a metamorphosis from more closed, inward economic structures and organizations to more open and capitalistic economies. As proposed by Tan (2007) this transition process may be considered as "complex adaptive systems" where "dynamic networks of multiple agents interact nonlinearly." This complex and dynamic structure of the context, forces organizations in emerging economies to have the potential for creativity and change to survive, more so than their competitors in developed economies (Tan, 2007).

In the case of the Turkish economy, which opened itself to the world economy from 1984, private initiative has never been a long-standing characteristic historically, and the state has been the major economic player for most of the 20th century. Moreover, Turkish cultural characteristics point to a very distinct entrepreneurship profile, from the ideal type that will be mentioned in detail later in the manuscript.

However, especially in the last years, combined with the on-going EU membership process, a complete transformation process has been observed, both in terms of social and economic regulations. Transformation in terms of the population from rural to urban; working population in agriculture to that of industry; from high chronic inflation to low inflation; from state leadership to private leadership in the economy. This dynamic and quite rapid transition also leaves the economy which is not sufficiently powerful and sheltered, open to crises: both large and small, and both financial and economic. Thus, despite the turbulence in the environment, a required transition not only in above-mentioned characteristics but also in related phenomenon is observed as well. As a consequence, maybe more than their competitors in developed economies, firms in emerging economies similar to Turkey, should gradually transform themselves and adopt a new set of strategic orientations. This requirement makes CE more than a necessity in this context. Considering that Turkey is the world's 17th most

[2] Due to the popularity of the Goldman Sachs thesis "BRIC" and "BRIMC" (M for Mexico), these terms are also extended to "BRICS" (S for South Africa) and "BRICET" (including Eastern Europe and Turkey)

industrialized nation, the practical conclusions may be highly valuable for such developed economies as well as emerging ones.

2.
THEORETICAL BACKGROUND AND HYPOTHESIS DEVELOPMENT

This thesis investigates the firm-level entrepreneurship phenomenon through a new lens, different from the old common way. This chapter provides the conceptual framework and the theoretical infrastructure upon which this view is based. The chapter starts with the brief presentation of assumptions and underlying grand theories. Following that, the context surrounding the population of the research, namely Turkey, is introduced. The chapter continues with the introduction and discussion of the proposed model that argues, developed through confluence of a unique internal resource set and appropriate external factors, EO leads first to CE behavior and then in return to performance with the help and moderating effects of internal and external contexts. The chapter ends with the elaboration of the variables constituting the proposed model, accompanied by related hypotheses to be tested.

2.1. Conceptual Framework and the Surrounding Context

This section of the chapter presents the grand theories utilized throughout the study. The section begins with the Schumpeterian entrepreneurship theory, which resides in the initial questioning and conceptual reasoning of this study. Accordingly, this thesis deems entrepreneur and intrapreneur, i.e. independent and dependent entrepreneur, as the two different faces of the same coin or better to say twins (Cetindamar & Fis, 2007). The basic difference is the context entrepreneurial behavior displayed (Cetindamar & Fis, 2007; Davis, Morris, & Allen, 1991). Anyhow, whether dependent or independent, “entrepreneurial effectiveness is arguably a firm-level

phenomenon" (Covin & Slevin, 1991:8); consequently, the level of analysis in this study is the firm level.

2.1.1. The Older "Twin": Independent Entrepreneurship

"The study of business without an understanding of entrepreneurship is like the study of Shakespeare in which the Prince of Denmark has been expunged from the discussion of Hamlet" (Baumol, 1989:66).

Entrepreneurship literature continues to flourish by expanding its inter disciplinary nature, ranging from anthropology, economics, education, finance, history, marketing, political science, psychology, sociology, and strategy (Low & MacMillan, 1988). However, despite such richness, the entrepreneurship literature still deals with the absence of a "generally accepted" theory of entrepreneurship (Gartner, 1990). As Low and MacMillan (1988:141) assert, "the term entrepreneurship is too imprecise a concept to be of much use to researchers". According to them, Pfeffer's (1977:105) argument about leadership that "an understanding of the phenomenon subsumed under the rubric of leadership may not require the construct of leadership" even applies to the construct of entrepreneurship. Due to this problem, many studies start their papers with a definition of the entrepreneur and entrepreneurship (Sharma & Chrisman, 1999). This redefining would not be a problem if definitions were complementary and seeking to focus attention on different features of the same phenomenon (Baumol, 1995). However, there might be overarching definitions distorting the understanding of the phenomenon of entrepreneurship such as the introduction of the term intrapreneurship. Following Bull, Thomas, and Willard (1995), and Cetindamar and Fis (2007), this thesis argues that a detailed account of Schumpeter's concepts might reduce the need for repeatedly writing definitions and thus prevent researchers from misdirecting their efforts. As Becker and Knudsen (2004) claim, Schumpeter's neglected yet significant works that present important contributions to entrepreneurship, are another good reason to return to him. The entrepreneurship understanding that revisits Schumpeter to form the basis of hypothesis development of this thesis, follows below.

Derived from the French verb "entreprendre" meaning either "to enter into" or "to undertake" (Sadler, 2000), the term entrepreneur and its key role in a capitalistic economy have been recognized for at least two centuries. In spite of this long

recognition, contemporary studies of entrepreneurship still only begin with Schumpeter. Five decades ago, French economist Richard Cantillon was first to use the term entrepreneur as a fourth actor of the economic process schema (Sadler, 2000; Schumpeter, 1954). To Cantillon, the entrepreneur was the person to acquire the means of production at certain prices with a view to sell at some uncertain (expected) prices. Coming from this tradition, Jean Baptiste Say, was the first to assign a definite position to the entrepreneur in the economic process (Schumpeter, 1954). "Combination" was the key word that reflected the function of the entrepreneur, in Say's view. Building upon, "newness" was the main addition of Schumpeter to the key function of the entrepreneur defined by J. B. Say: combination.

In his seminal work, "The Theory of the Firm" (1954:555), Schumpeter argued that, "when applied to a going concern, combining factors denoted little more than routine management". He (1934) defined entrepreneur as the person who fulfills the function of making a "new combination" through the act of innovation, meaning "to produce other things, or the same things by a different method" out of all possible kinds of objects and forces. The combination did not require to be carried out by the same people who led the old combination or did not need to be performed by new means of production, i.e. totally new people could form totally new combinations with totally old means of production. Schumpeter was also quite careful not to glorify the characteristics of the entrepreneur. In his later publications he deliberately did not emphasize character to keep it within the context. For Schumpeter's entrepreneur (1934:93), financial results were secondary to the primary considerations of "will to conquer; to prove oneself superior to others; to succeed for the sake of success but not of the fruits of success, the joy of creating and of getting things done". Moreover, entrepreneurship behavior was realized between the period of making and settlement of the new combination. Thus, it was rare for anyone to remain as an entrepreneur for years when the salient function ended, i.e. the new combination settled down. In Schumpeter's (1934:65) own terms:

> A new combination could occur in the form of (1) introduction of a new good or of a new quality of a good; (2) the introduction of a new method of production, which need by no means be founded upon a discovery scientifically new, and can also exist in a new way of handling the commodity commercially; (3) the opening of a new market, that is a market into which the particular branch of manufacture of the country in question has not previously entered, whether or not this market has existed before; (4) the conquest of a new source of supply of raw materials or half-

> manufactured goods, again irrespective of whether this source already exists or whether it has first to be created; (5) the carrying out of the new organization of any industry, like the creation of a monopoly position or the breaking up of a monopoly position.

As Schumpeter (1934) also acknowledged, this definition was broader than the traditional one in the sense that, anyone, either independent or dependent, i.e. employee of a company or not, could be an entrepreneur as long as he / she fulfilled the function defined above; and narrower in the sense that it did not include people running an established business. Additionally, the main function could well be operated in a non-manufacturing organizational context. Turning back to Schumpeter, this was one of the critical deductions forming the backbone reasoning behind hypothesis development of this thesis. Accordingly, the function of making new combinations is what matters and nothing else (who, when, how, how long, for what) is more important and distinguishing.

In his later writings, Schumpeter has associated entrepreneurship with the indeterminate emergence of economic relations (Becker & Knudsen, 2004) and noted that the art of recombination extends to the moral, cultural, and social organizational spheres (Peterson & Berger, 1971). A similar trend has also been observed in the recent studies of entrepreneurship that had originally focused on personal traits, and the question of "who / who is not" in the early years of research. Recently, a more contextual and process-oriented focus, considering the influence of dynamic effect of environmental forces at different levels of analysis: population, community, and society, has emerged as valid (Aldrich & Martinez, 2001; Low & MacMillan, 1988). Thus, the second critical deduction was that, the process of forming the new combination is an outcome of a complex set of factors extending to cultural, social, and contextual contexts.

To summarize, whether the person has fulfilled the function and how the social interactions have affected this process of fulfillment were the primary issues taken into consideration.

2.1.2. Link to Other Grand Theories: The RBV of the Firm and the CF

Albeit the depiction of firms as elements of a resource set goes back to the seminal work of (Penrose, 1995), the RBV of the firm has not received the attention it

deserved until the last quarters of the last century (Wernerfelt, 1984). Better analyzed and handled after that time, RBV has served as an overarching theoretical framework for many studies. Simply put, it contends that a firm's resources influence performance. Resources are defined as "anything which could be thought of as a strength or weakness of a given firm", in the form of physical or intangible assets, and/or organizational capabilities that are tied semi-permanently to the firm (Wernerfelt, 1984:172). The view centers on unique resources that are difficult for competitors to replicate and that therefore can provide a foundation for superior performance (Barney, 1991).

The RBV of the firm argues that the resources valuable, rare, imperfectly imitable, and insubstitutable should offer sustainable competitive advantage. As put by Barney (1991:107), firms with historically unique, causally ambiguous, and/or socially complex i.e. "imperfectly imitable resources", "will often be strategic innovators, for they will be able to conceive of and engage in strategies that other firms could either not conceive of, or not implement, or both, because they lacked the relevant firm resources". Organizational culture, identified as an ambiguous and socially complex structure with its ties in the history or founder of the organization, forms a good example of imperfectly imitable resource set (Barney, 1986). Thus, in parallel to the RBV of the firm, it is hypothesized in this thesis that organizational culture being the most probable and appropriate resource set candidate, for possessing the attributes of imperfectly imitable resource set, feed an orientation called entrepreneurial which itself is an inclination, and inspiration that leads to entrepreneurial behavior, i.e. CE performance.

However, as expressed previously, this relationship is neither direct nor alone. As perfectly stated by Barney (1991:106), "to observe that competitive advantages (sustained or otherwise) only accrue to firms that have valuable and rare resources is not to dismiss *common* (i.e. not rare) firm resources as unimportant." CF, which suggests that congruence or "fit" among key variables such as environment, structure, management practices and strategy is critical for obtaining optimal performance (Burns & Stalker, 1994; Lawrence & Lorsch, 1967; Venkatraman, 1989), comes to stage at this point. The theory, fundamental to furthering the development of the organizational sciences, holds that the relationship between two variables depends on the level of a third variable. As Rosenberg (1968:100) suggests, the introduction of a third variable into the analysis of a two-variable relationship helps reducing the potential for misleading inferences and permits a "more precise and specific understanding" of the

original two-variable relationship. In line with this framework, the internal and external context, the strategy followed and their confluence on performance will be the issues of research in this study, as it has been for strategy fellows for many years (Miller, 1988).

2.1.3. The Contextual Framework Surrounding the Sample

"Theories are applied to sterile and highly sanitized settings, leaving a major gap in our understanding."
Zahra, (2007:445)

The dynamic entrepreneurial process still waits to be uncovered to form a strong theory for the entrepreneurial firm and this task has to include non-US literature as well (Hayton, George, & Zahra, 2002; Zahra et al., 1999). The study of diversified cultures, social interactions, and networks in different countries, especially in emerging ones, might be a good starting point (Bruton et al., 2008). Below is a short summary of the contextual and cultural context surrounding the sample of the study, namely Turkey.

Looked from the empty side of the glass, Turkey, with high uncertainty in the political and interrelated economic environment; frequent economic crises and chronic high inflation until recent years; high volatility in currency rates; high rates of perceived corruption and bureaucratic obstacles; a shadow economy estimated to have reached 30% during the 1990-2003 period (Schneider, 2005); the absence of venture capital; unsatisfactory or newly established legal environment for healthy competitiveness as well as for patent and copyright protection; and low performance in terms of scientific and technological production mainly due to low amount of resource allocation (only 0.6% of GDP is allocated for R&D), does not offer favorable economic and infrastructural conditions for entrepreneurship. Owing to volatile political and economic conditions, firms find it very difficult to make long-term plans. For the 1990's, Turkey had short-lived coalition governments and because of state dependence for policy issues and financial support the change of governments have resulted in alterations in economic policies and regulations (Bugra, 2003). The 63rd position in the Global Competitive Index out of 134 countries (Porter & Schwab, 2008), and 84th position out of 177 countries in the Human Development Index (Watkins, 2007) may be flashing indicators of these unfavorable conditions. Moreover, the 2002-2004 innovation data by Turkish Statistical Institute indicates that though there has been an

increase compared to 1995-1997 period, only an average of 35% of firms do innovate. Share of the expenses of public R&D and of information and communication technologies in GDP are respectively 0.47 and 3.2 percents, compared to 0.69 and 6.4 percents in EU-25. On the technology outputs' side, the number of European Patent Office patents per million people is only 1 in Turkey, whilst it is 133.6 in EU-25 (Bascavusoglu-Moreau, 2008a).

In terms of cultural characteristics, Hofstede's (1980) rankings have shown that Turkish culture is high in collectivism, power distance, and uncertainty avoidance dimensions. In a collectivistic society, the self is defined by in-group memberships (Triandis, 1995) and thus in-group membership is what matters. Teamwork and collaboration significantly differs among in-groups and out-groups (Earley, 1993). Most likely, the workplace does not constitute the in-group with which typical, highly collectivist Turkish people identifies themselves (Goregenli, 1995). The most meaningful social unit in the highly collectivist Turkish society is most probably kinship. Then, this may take away most of the advantages that collectivism may bring forward to the formation of high EO. Moreover, in terms of Schwartz's (1994) categorization, Turkish culture is at high levels in regard to conservatism and hierarchy, compared to egalitarian commitment and harmony. Furthermore, Aycan (2001:253) has pointed out that Turkish culture owns high paternalistic values that can be described as "a subordinate-superior relationship, whereby people in authority assume the role of a parent and consider it an obligation to provide support and protection to those under their care. Subordinates, in turn, reciprocate such care, support and protection of the paternal authority by showing loyalty, deference, and compliance to him/her." It is not hard to envision that high paternalism and entrepreneurship do not go arm in arm. In a ten-country cross-cultural research, Aycan et al. (2000) found Turkey to be highly paternalistic, moderately collectivistic and hierarchical. With respect to internal work culture, managers held favorable assumptions and beliefs regarding employee malleability, responsibility seeking, and participation. On the other hand, it was a common belief that employees were not proactive. Moreover, in the GLOBE survey conducted in 62 national cultures worldwide, it has been found that Turkish culture is at a relatively low level in performance orientation, future orientation, humane orientation, gender egalitarianism, and societal collectivism (Kabasakal and Bodur, 1998, as referred in Pasa, Kabasakal, & Bodur, 2001). To begin with, all these cultural characteristics point a perfectly distinct entrepreneurship profile, from that of western

culture where much of the research has been realized so far (Bruton et al., 2008), and from the ideal type that has been shown in the literature for entrepreneurship (Hayton et al., 2002).

Supportively, in the most recent Inglehart-Welzel cultural map of the world (Esmer, 2005), that explains more than 70% of the cross-national variance in a factor analysis of ten indicators (Inglehart & Baker, 2000), Turkey resides in the traditional part of the "traditional/secular-rational" continuum. According to this map, societies near the traditional pole emphasize the importance of parent-child ties and deference to authority, along with absolute standards and traditional family values, and reject divorce, abortion, euthanasia, and suicide. In the second major dimension of survival and self-expression values, Turkey resides at a point closer to survival. Self-expression values denote that high priority is given to environmental protection, tolerance of diversity and rising demands for participation in decision-making in economic and political life. The unprecedented wealth that has accumulated in advanced societies during the past generation means that an increasing share of the population has grown up taking survival for granted. Finally, societies that rank high on self-expression values also tend to rank high on interpersonal trust. Supportively, the percentage of people who trust their ordinary (of whom they do not know) fellow citizens has only been 18.9% among the Turks in the latest World Values Survey (Esmer, 2001).

Consequently, favorable conditions are not observed both in physical and economical, and softer and non-economical terms. Therefore the number of entrepreneurs choosing self-employment out of every 100 people is only 4.6 (Cetindamar, 2002). For sure, rather than Schumpeterian type, the entrepreneurship meant here is more about "new entry". Nevertheless, entrepreneurship out of necessity has been the basic motive behind these Turkish entrepreneurs (Cetindamar, 2002; Karadeniz, 2006). Compared to other unattractive alternative sources of making a living, self-employment has been the option of choice for many (Cetindamar, 2002; Kozan, Özsoy, & Öksoy, 2006). Most of the entrepreneurs believe that Turks perceive entrepreneurship and competition as a bad affair, i.e., a way of earning "easy money" (Cetindamar, 2002).

Turkish firms generally are small and medium-sized enterprises operating in conventional manufacturing industries rather than technology-based industries. Although the percentage of workforce employed by small and medium enterprises amount to 50% (KOSGEB, 2005), Turkish SME's only have a total share of 6% in total

investments, 8% in exports, and 3.5% in loans (Kozan et al., 2006). 95% of the private sector firms in Turkey are family firms, and large family-owned conglomerates dominate the private sector (Kula, 2005). These conglomerates generally have a highly concentrated, and centralized ownership structure, and generally family members hold most of the management positions. Centralized decision making, strong leadership, and limited delegation are the main characteristics of these businesses (Aycan, 2001).

Given the typical family ownership structure of Turkish companies, out of about 300 firms quoted in İstanbul Stock Exchange (ISE), the ratio of shares outstanding is only 30% of the whole shares, meaning even the firms open to public are still in the strict control of "the boss" or "the family" (Forbes, 2006). Voluntary disclosure among these firms is also very limited. Disclosure levels are highest with respect to financial disclosure and lowest with respect to the board of directors and management processes (Balic, 2007).

All these indeed, make CE more than a necessity in this context. Thus, firms should transform themselves and adopt a new set of strategic orientations and actions to survive. Most probably, what is going on in the recent years corresponds to this transformation process. Turkey is going through a transition period as well as other emerging economies.

In the recent years, the Turkish economy has shifted to another level of transformation, both in terms of social and economic regulations, especially. Combined with the on-going EU membership process, the economy that has been opened to the outer world only beginning from 1984, has undergone significant changes in a short time period. Transformation in terms of the population from rural to urban; working population in agriculture to industry; from high chronic inflation to low inflation (9.9% in 2006 vs. 84.6% in 1998); from state leadership to private leadership in the economy; from cheap labor to high-quality human resources as the base of the competitive advantage, etc. There has been a dramatic shift from a predominantly agriculture-based economy to an increasingly industrialized and service-based economy. The share of agricultural output, which was about 43% of GNP in the early days of new democracy (1920's), has decreased to a level of only 12% in 2005, though still the highest in Europe (Bascavusoglu-Moreau, 2008b). Services have increased to 65%. This relatively young nation where 52% of the population is under the age of 30 (NVİ, 2007), is now the world's 17th most industrialized economy (IMF, 2008). As a candidate for the enlarging European Union, Turkey has witnessed a period of

economic development with an average of about 7% for more than consecutive 20 quarters. The growth of GDP was 7.5% in 2006 as opposed to minus 7.50% in 2001. Only for 2006, has the foreign direct investment amount exceeded 20 billion USD (from 722 million in 1996 and 9.8 billion in 2005).

Historically, private initiative has never been a long-standing characteristic of Turks. In the Ottoman Empire period, business activity was the stronghold of non-Muslim minorities (Richards & Waterbury, 1998), and later on in the case of modern Turkey, state owned enterprises have been the major and leading source of production and investment. The state became the major economic player for most of the 20th century and private vs. state leadership in the economy has been the main source of dispute and tension in the Turkish political economy (Bugra, 2003; Kozan et al., 2006). Today, though rapidly changing in favor of private enterprises, the reflections of tension and dispute between private and state enterprises still continue.

Change in softer and social characteristics has accompanied transformation in the material and economical side (Aycan et al., 2000; Yilmaz et al., 2005). Since Hofstede's research (1980), Turkey has become somewhat less collectivistic, less hierarchical (Aycan et al., 2000), and less uncertainty avoiding (Kabasakal and Bodur, 1998, as referred in Pasa, Kabasakal, & Bodur, 2001). Besides these changes in the global population, as a result of interactions with foreign counterparts in recent years, Turkish firms have gained enough know-how on management and human resource management (HRM) systems (Aycan, 2001). While some organizations follow the newest trends in HRM practices, they experience difficulties due to some of the "emic" characteristics of both the societal and organizational culture (Aycan et al., 2000). The working culture of Turkish firms has especially started to become a mixture of Western and Eastern values and systems. The changing values and expectations of a young and well-educated workforce, and the increasing participation of women in the workforce are the two trends of Turkey (Aycan et al., 2000).

2.2. The Theoretical Framework

In this section where the variables of the model and theoretical framework surrounding them will be elaborated, the discussion begins with the main variable of the

study: CE. Discussion about EO, the organizational culture, and the surrounding contextual factors follow this section respectively. So far accumulated literature about these concepts, and variables, and the relationship between them, is accompanied by related hypotheses to be tested.

2.2.1. The Function Itself: The Younger Twin

Schumpeter (1976:133) has projected that "economic progress would tend to become depersonalized and automatized, and bureau and committee work would tend to replace individual action" in the coming years. To him, innovation would become the routine job of trained specialists and the entrepreneur struggling as a change agent against reactions stemming from customers and producers would vanish as a natural consequence of resistance to change. He likened entrepreneurs to the armored knights of middle ages. To Schumpeter, the social and technological change that had undermined and eventually destroyed both the position and the role of the medieval knights would follow the same in the case of entrepreneurs; advances in capitalism would replace entrepreneurs with bureaucratically minded managers.

Fortunately (or not?), not yet at least, Schumpeter's prediction is not observed thoroughly. Resembling to his expectations, we now have a more powerful phenomenon of "predictable" entrepreneurship occurring inside the organizations incorporated into the bureaucratic structures (Czernich, 2004); a great portion of it is carried out as routines through one or more separate units: new venture divisions, new product development units, and R&D departments. Most incremental rather than radical innovations are natural consequences of increased control and reduced uncertainty, induced with routine works of these departments (Czernich, 2004). On the other hand, besides this increased routinization, "independent initiatives" frequently end up with unprecedented and unexpected new combinations and even more radical changes (Burgelman, 1983b) occur inside the firms (Baumol, 1995).

Collins and Moore (1970, as referred in Schollhammer, 1982), have been the first to differentiate between "administrative" and "independent" entrepreneurs, and either in

the form of routinized or independent initiatives, firm level entrepreneurship[3] has been one of the rapidly growing research subjects for academia (Barringer & Bluedorn, 1999; Hisrich & Peters, 1986; Hornsby, Kuratko, & Zahra, 2002; Zahra et al., 1999), worldwide (Zahra et al., 1999) since the seminal study of Peterson and Berger (1971). The paradox of venturing inside an organization, designed to administer, maintain, and protect the status quo may be one of the attraction points of the phenomenon.

However, as in the case of the older twin, "there appears to be *nothing near a consensus* even on what it is" (Guth & Ginsberg, 1990:6). There are even many terms used interchangeably (Zahra et al., 1999) such as: intrapreneurship, entrepreneurial posture, strategic posture, entrepreneurial strategic orientation, corporate venturing, corporate start-ups, dispersed entrepreneurship, administrative entrepreneurship, strategic renewal, internal entrepreneurship, internal corporate entrepreneurship, intra-corporate entrepreneurship, entrepreneurial orientation, and corporate[4] entrepreneurship, etc. (Becker & Knudsen, 2004; Covin & Slevin, 1991; Pinchot, 1985; Schollhammer, 1982; Sharma & Chrisman, 1999). As Sharma and Chrisman (1999) claim, the existence of such a large number of terms referring to the same phenomenon is the "sign of blurriness of minds" that has slowed down the development of this field of research. That problem would not be a big one if what was meant by these terms were the same or complementary. However, as will be argued in more detail in the subsequent sections, EO which implies the orientation / intention / disposition / posture / style / mode / insight has been used as an equivalent of entrepreneurial behavior, i.e. CE, in the literature. These two different terms referring to two different concepts indeed, have been used interchangeably in the literature.

While CE can broadly be defined as "entrepreneurship within an existing organization", this study prefers and will adopt *"the sum of an organization's all innovation, renewal and venturing efforts"* (Guth & Ginsberg, 1990; Zahra 1996).

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[3] Corporate entrepreneurship is one of the few agreed upon labels to refer to firm level entrepreneurship, though this agreement does not extend to its meaning. This study will follow the tradition and use the term CE throughout the manuscript to differentiate and emphasize the context where entrepreneurship is realized. However, the term firm-level entrepreneurship will be preferred (1) until the distinctive meaning behind the concept is cleared, (2) when the previous literature, which has used the terms interchangeably, is referred, and (3) a more general concept is implied.

4 As past research has shown (Morris & Paul, 1987; Wiklund & Shepherd, 2005), corporate in this term not only refers to large established organizations but corporations in all sizes: small, medium, and large.

Resulting in a new business within or outside the existing organization and/or market, venturing may be the most striking form of creating "new combinations" (Burgelman, 1985; Stopford & Baden-Fuller, 1994; Vesper, 1984). The purchase of an existing organization through a management buy-out or buy-in; the purchase of an existing organization through a franchise; and the inheritance and development of family firms may be examples of venturing types (Ucbasaran, Westhead, & Wright, 2001). Venturing could be internal or external. While internal venturing occurs within the boundaries of a firm's existing businesses (Zahra, 1991), as happens in the formation of joint ventures across the firm's different divisions, external venturing centers on exploring and exploiting business opportunities outside the firm's existing boundaries (Keil, Maula, & Schildt, 2003). Thus, corporate venturing efforts may end up with a stand-alone venture or can reside within the organization as a spin-off (Zahra, 1993b).

Diffusion of an "entrepreneurial" mood and outlook into entire organizational operations that is "a renewal struggle inside established firms" (Burgelman, 1983a; Kanter, 1989) can be another example of CE behavior. This, so called, strategic renewal function reflects the transformation of organizations through the renewal of key ideas on which they are built (Guth & Ginsberg, 1990; Zahra, 1991). This renewal has strategic and organizational change connotations and includes the redefinition of the business concept, reorganization, the introduction of system-wide changes for innovation, and the new strategic direction (Stopford & Baden-Fuller, 1994; Vesper, 1984; Zahra, 1993; 1996). The organization may seek to redefine its relationship with its markets or industry competitors by fundamentally altering how it competes.

Finally, the innovations come to stage. Referring to the introduction of a new product, process, technology, system, technique, resource, or capability to the firm or its markets, innovativeness represents departing from existing technologies and/or practices and venturing beyond the current state of the art (Lumpkin & Dess, 1996). Creative, unusual, or novel solutions to problems and needs (Davis et al., 1991), innovations can vary in their degree of radicalness. However, in whatever form or degree, innovativeness is an important, vital constituent of CE common to all definitions and/or academicians (Covin & Miles, 1999a; Sharma & Chrisman, 1999).

Consequently, in accordance with Schumpeterian definition of entrepreneur, CE is a dynamic process consists of both autonomous and routinized entrepreneurship, regardless of the place, type, and the way it is performed or measured. The essence is or "should be", "new combinations" formed. New combinations, either in the form of

new business ventures or other innovative activities such as development of new products, services, technologies, administrative techniques, and strategies. In other words, both the basics of entrepreneurial process and the function to be fulfilled are the same either in or outside the organization, or as in the form of innovation or renewal activity: the entrepreneur mobilizes a set of different resources and recombines them in a new, i.e. "creatively destructive" way in Schumpeter's terms.

2.2.2. The Old Stunt: Entrepreneurial Orientation

"Naming something" said Alice to the Red Queen,
"isn't the same as explaining it."
Lewis Carroll, Alice's Adventures in Wonderland

Compared to entrepreneurship studies dominated by micro-level research where the individual is the level of analysis, firm level entrepreneurship studies mostly rely on macro-level research where firms constitute the typical unit of analysis (Davidsson & Wiklund, 2001; Low & MacMillan, 1988). However, similar to early "independent" entrepreneurship research, most of the studies in firm level entrepreneurship literature have focused on the characteristics of the firm rather than the function and the interaction process that lead to this function (Hornsby et al., 2002; Sharma & Chrisman, 1999). EO is such a firm level phenomenon placing firms along a conceptual continuum, which ranges from highly conservative to highly entrepreneurial (Covin & Slevin, 1991). According to this approach, while entrepreneurial organizations are risk-taking, innovative, and proactive; conservative organizations are risk averse, less innovative, and adopt more of a "wait and see" posture (Miller, 1983). Miller (1983) has introduced EO as formed of three key dimensions: risk-taking, proactiveness, and innovativeness. Innovativeness shows the orientation to product / service innovations while proactiveness reflects the disposition in pursuing market opportunities as well as in shaping the environment by being among the very first to undertake innovations on products, services, technologies, renewal activities, and management techniques in the industry (Antoncic & Hisrich, 2001; Covin & Slevin, 1991; Stopford & Baden-Fuller, 1994). The final dimension, risk-taking, is shortly defined as the inclination to support innovative projects even when the payoff from these activities is uncertain.

In spite of many applications, EO is still a relatively vague concept where the dimensions of the construct are still debatable. The conceptualization of EO has been

the focus of systematic inquiry in the literature (Covin et al., 2006; Lumpkin & Dess, 1996; Lyon, Lumpkin, & Dess, 2000). In their 1996 piece, Lumpkin and Dess have proposed two more dimensions to be embedded into the construct. Competitive aggressiveness, though regarded as equal with proactiveness by some scholars (Covin & Covin, 1990), is one of these dimensions. It is exemplified by an intense disposition to outperform industry rivals. As Lumpkin and Dess (1996; 2001) put it, it is "a combative posture" or "an aggressive response" aimed at "improving position" or "overcoming a threat in a competitive marketplace". At this point, the researcher agrees with Lumpkin and Dess, who also have shown the distinction empirically (Lumpkin & Dess, 2001), in that competitive aggressiveness and proactiveness are two different dimensions. The other dimension suggested by the same researchers, have been autonomy. In the words of the authors (1996:140), it refers to "independent action by an individual or team aimed at bringing forth a business concept or vision and carrying it through completion". Autonomy conveys the freedom to employees to be self-directed, to exercise creativity, pursue opportunities, and champion new ideas (Lumpkin & Dess, 1996). Moreover, such autonomy encourages employees to participate in change and become actively involved in entrepreneurial activity. Thus, although some framework of coordination is likely to be needed, on balance autonomy is expected to be beneficial in improving performance. Thus, these autonomous activities, which reside in the heart of entrepreneurial activities (Burgelman, 1983b) should also be embedded into an EO scale.

Expecting that adding these two dimensions will better explain the phenomenon and open a promising door for future studies, this thesis adopts the five dimensions proposed by Lumpkin and Dess (1996). Given the existing conceptual insights, a more detailed theoretical debate is beyond the focus of this study.

As mentioned previously, so far in the literature, EO has mostly been conceptualized (Miller & Friesen, 1982) and applied as an equivalent of CE. This assumption ignores the previously mentioned fundamental issue highlighted by Schumpeter that an organization will be entrepreneurial only if it fulfils the "function" not when it has non-behavioral firm-level attributes. To Schumpeter (1934), even the number of successful patent applications filed during each year, which definitely is more than a disposition, may not be an appropriate measure for CE. Since patents do not necessarily turn into a commercialized output, even they, can not yet be an example of entrepreneurship. As concisely put by Schumpeter (1934:88), "to carry any

improvement into effect is entirely different from the inventing of it and entrepreneurs are only inventors by coincidence, but not by nature of their function. Besides, the innovations which are the functions of entrepreneurs to carry-out, need not necessarily be any inventions at all". In other terms, more than creativity, actually being an entrepreneur is "rolling up the sleeves" and turning ideas into profitable realities (Pinchot, 1985). On the contrary EO construct has disposition-oriented items questioning the mental orientation of the top managers which is not (and maybe will never) necessarily put into action (Wiklund, 1998; 1999). Indeed, the terms used for the phenomenon by the introducers of the construct (Covin & Slevin, 1988) such as entrepreneurial *mode*, entrepreneurial *style,* entrepreneurial *manner,* entrepreneurial management style, management *philosophy*, top managers' *inclination, propensity*, beside others like strategic *posture* (Covin & Slevin, 1991), entrepreneurial *intensity* (Murray, 1984), entrepreneurial *ambition*, and firm's *tendency* (Barringer & Bluedorn, 1999), perfectly explain the conceptual rationale behind the EO phenomenon.

Following Zahra's (1991) argument about EO being an assessment of disposition toward, rather than actual involvement in entrepreneurial activity, several researchers have pointed out the same issue. Lumpkin and Dess (1996) have argued that EO describes "how" but not "what". In their more recent article (2001:429), the authors have further claimed that, "EO has been used to refer to the strategy-making process and styles of firms that engage in entrepreneurial activities." They have noted the distinction between EO and entrepreneurship by suggesting that "EO represents key entrepreneurial processes those answer the question of how new ventures (new combinations in this study) are undertaken, whereas the term entrepreneurship refers to the content of entrepreneurial decisions by addressing what is undertaken" (2001:432). Following them, Wiklund (1998) has argued that EO comprises two components; one which is action-oriented and resulting in actual entrepreneurial behavior which may be labeled as strategic action and the other reflecting the mental orientation component which does not have a strong link to entrepreneurial behavior. He further has claimed that these 'softer' characteristics of EO that are not converted into action, may be the leading reasons behind reduced explanatory power in the EO - performance relationship. Wiklund (1998) has called researchers to elaborate more the relationship between EO and entrepreneurial behavior. However, both constructs have not been examined together in the same model, yet.

The impulsive firm identified by Miller and Friesen (1978), which is very bold (proactive) and venturesome (risk taking) is a good example where the management has the entrepreneurial sprit but the firm is not among the succeeding group in the authors' typology. Although the orientation / mode had existed, the behavior has not been observed. The authors have associated this with the absence of pausing to consolidate or to analyze the impact of past actions, that time. Though this is a probability, another plausible explanation might be the non-existence or unfavorable existence of other contributing factors / moderating mechanisms and/or variables, which interactively lead to entrepreneurial behavior. Similarly, having all the favorable moderating conditions may not be enough. It should not be fair to expect behavior without appropriate orientation towards that behavior.

To make a long story short, EO indeed is a disposition assessment index rather than actual entrepreneurship. Here in this thesis, it is proposed that rather than actual behavior, EO is organizations' readiness or mode, top management's strategic inclination or propensity to initiate and/or conduct CE activities. EO thus serves as an antecedent of CE. In other words, EO should be treated as the strategic posture / approach (Morris & Paul, 1987) and/or inspirational tool top management utilizes towards entrepreneurial action. It is a clearly distinct concept from the behavior that it leads to and the organizational culture where it is nourished (Wiklund & Shepherd, 2005). To some extent, this formulation parallels the conceptualization of market (Slater & Narver, 1995) and alliance orientation in marketing (Kandemir et al., 2006). Thus, mainly based on the premises of Schumpeterian entrepreneurship theory and above-mentioned previous literature, it is hypothesized that:

Hypothesis 1: A firm's entrepreneurial orientation has a positive direct impact on all forms of corporate entrepreneurship: a) corporate innovativeness, b) corporate strategic renewal, and c) corporate venturing.

As concisely stated by Atuahene-Gima and Ko (2001:55):

> Organizational orientations are social learning and selection mechanisms that aim to maintain a coherence between management's strategic intent and operational activities. They shape the way organizational members process information and react to the environment through the nature of control systems and rewards they endanger. They create internal environments in which desired behavior are encouraged and supported.

In line with the above theorization of strategic orientations and manifestations of this theorizations in other strategic orientations (marketing, learning, and alliance) in other disciplines, EO is treated as an important anteceding strategic variable of CE behavior, manifesting the inclination of top management and the mode of firm, with its roots based in the external and internal context. Proper environmental factors and core beliefs, values, and assumptions residing deep in the organization may possibly turn into an orientation, which in turn inspires and enables CE behavior and the other *"common"* variables moderate this relationship. Thus:

Hypothesis 2: Entrepreneurial orientation serves as a mediating variable between organizational culture and environmental factors and all forms of corporate entrepreneurship: a) corporate innovativeness, b) corporate strategic renewal, and c) corporate venturing.

EO does not occur in a vacuum; the 1990's have witnessed quite a large amount of empirical research focused upon illumination of the antecedents and outcomes of firm level entrepreneurship (Zahra & Covin, 1995). Besides the individual characteristics, which got in front of the stage initially, the literature has identified two main sets of context related sources as antecedents: internal and external environment (Antoncic & Hisrich, 2001; Covin & Slevin, 1991; Zahra, 1993b). In parallel, this thesis deems the firm level entrepreneurship phenomenon as an outcome of a complex, social, and causally ambiguous process. The following sections examine the other actors of this ambiguous process.

2.3. The Context: Internal and External

The argument for EO not being equal to CE, calls for another line of enquiry. Then, what determines the transformation of EO into CE, and CE into performance? Therefore, does high EO lead to high CE under all conditions? This investigation shifts the focus of the study to the antecedents and/or moderators of EO, CE, and performance relationship.

As mentioned previously, numerous entrepreneurship researchers have emphasized the importance of viewing the firm level entrepreneurship and performance

relationship in such a contingency framework (Covin & Slevin, 1991; Lumkin & Dess, 1996; 2001; Wiklund & Shepherd, 2005). Researchers have claimed that the fit between EO as a strategic element and its internal and external contexts may have a positive impact on performance, not just the existence of such an orientation per se (Dess, Lumpkin, & Covin, 1997; Zahra, 1993a). Furthermore, Lumpkin and Dess (1996:155), in their conceptual clarification of the EO construct, have proposed that "moderating effects, mediating effects, independent effects, and interaction effects provide a useful framework for gaining additional insight into the EO – performance relationship". Supportively, Covin and Slevin (1988) have argued that in order to be reasonably adequate in scope, a firm-behavior model of entrepreneurship should include environmental, organizational, and individual-level variables. They have added that, such a model should include both direct and indirect effects and incorporate contingent and moderating effects. However, there have been only a few studies where corporate entrepreneurship models were built and explored (Antoncic & Hisrich, 2004) empirically. Past research has examined correlates' of firm level entrepreneurship either by connecting two or more of these together or by studying a specific relationship. In designing the model of this thesis, while keeping the number of variables manageable and theoretically relevant, foremost agreed upon adequate number of factors were sought. At the end, a model that included three antecedents of CE behavior: EO (strategic component of the model as depicted in Covin and Slevin's (1988) conceptual model), environmental (external component), and organizational (internal component) factors have been proposed. Individual-level variables was not included into the model as the issue is considered and treated as a firm-level construct and more importantly as a consequence of the theoretical doctrine allied with.

The detailed analysis and discussion of variables begin with the link to external context. The discussion of organizational culture as an important, leading, internal contextual variable follow this part. Finally, the chapter ends with the discussion of other internal, "common" variables hypothesized to moderate the EO – CE relationship.

2.3.1. External Context: The Environment

"Stripped of its nineteenth century trappings, entrepreneurship seems to be an important component of leadership styles in diverse contemporary organizational contexts which face a turbulent environment".
Peterson and Berger (1971)

Organizations typically do not operate as closed systems, independent of their environments. Thus, environment has long been considered as one of the critical contingencies in organization theory and strategic management (Child, 1972). Earlier works on strategy and environment have claimed that environment and strategy must be matched (Miller, 1988). Supportively, since the 1990's, the relationship between a firm's external environment and CE activities has been the subject of interest in the firm-level entrepreneurship literature, (Zahra, 1991, 1993). As put by Covin and Slevin (1991), the external environment has been demonstrated to have a strong if not deterministic influence on the existence and effectiveness of entrepreneurial activity in an abundance of research, utilizing diverse methods and models, both theoretically (Guth & Ginsberg, 1990) and empirically (Zahra, 1991). The empirical results support the position that the effective CE and accompanying strategies may require environment-specific tactics (Covin, 1991; Covin and Slevin, 1989; Covin, Slevin, & Heeley, 1999; Lumpkin & Dess, 1996; Wiklund & Shepherd, 2005; Zahra, 1991; 1993; Zahra & Covin, 1995). Moreover, Miller and Friesen (1982), has argued that a reciprocal relationship between firm level entrepreneurship and environmental conditions do exist as well. To them, as innovation prompts imitation, entrepreneurial firms may even be partly responsible for dynamic environment. However, in parallel to Covin and Slevin (1991), this thesis deems that environmental conditions will much likely have a stronger impact on entrepreneurial orientation than vice versa.

Many conceptualizations of the environment are largely consistent with Dess and Beard's (1984) three dimensions: munificence, complexity, and dynamism, which together capture the principal way to describe and conceptualize the fundamental properties of organizational environments (Simsek et al., 2007). However, in the CE literature, studies that specifically relate stability and/or munificence to firm level entrepreneurship are rare (Lumpkin, 1996). Moreover, as this study focuses on single or dominant business units (Rumelt, 1974) that may not exhibit significant variations in their markets or production processes or procedures (i.e. low heterogeneity), complexity

has been dropped from the study (Zahra, 1993). So far in the literature, a strong positive relationship has been shown between hostility (Burns & Stalker, 1994; Covin & Slevin, 1989; Miller & Friesen, 1982; 1983; Zahra, 1991; 1993; Zahra & Covin, 1995; Zahra & Garvis, 2000), dynamism (Burns & Stalker, 1994; Davis et al., 1991; Miller, Droge, & Toulouse, 1988; Miller & Friesen, 1982; Zahra, 1991) and EO.

Being a widely recognized dimension of environment with strong historical ties to the construct of CE, environmental hostility (often considered to be obverse of munificence - Lumpkin, 1996) is characterized by high levels of competition, rare number of exploitable opportunities, shortages of labor or raw materials, unfavorable demographic trends, severe regulatory restrictions, and remarkable competitive, market, and/or product related uncertainties. It is a harsh, overwhelming setting where even the survival is a major accomplishment (Khandwalla, 1977; Zahra, 1993b).

Dynamism (obverse of stability) on the other hand, is manifested by the rate, amount, and unpredictability of change in the environment, i.e. customer tastes, production or service technologies, and the modes of competition (Miller & Friesen, 1978). Products in the market change rapidly, while customer needs fluctuate. It heightens uncertainty, creates opportunities, intensifies rivalry by encouraging market entry, and forces companies to renew themselves through innovation.

In addition to Dess and Beard's (1984) above-mentioned dimensions, the perceived technological complexity level of the environment is another dimension to be investigated in this study. According to Khandwalla (1976:27), "a technologically sophisticated environment implies that the products and processes produced or utilized in the industry involve the use of very sophisticated and complex operations' technologies with a lot of research and development involved, while a relatively technologically unsophisticated environment implies the opposite." Frequently, technologically complex environments are characterized by great uncertainty or rapid change with respect to such things as product designs, manufacturing processes, customer preferences, distribution channels, and industry boundaries. The challenge and pace of technologically complex environmental settings seem to call for an entrepreneurial posture and high-tech companies are expected to pursue entrepreneurship more aggressively (Covin and Covin, 1990). Supportively, high-tech industries are commonly composed of disproportionate numbers of entrepreneurial firms (Maidique & Hayes, 1984).

To Mintzberg (1973) uncertainty is the main characteristics of the preferred environment for firms operating in the entrepreneurial mode and uncertainty is the largest common denominator among above summarized three environmental settings. All three settings require innovation (Burs & Stalker, 1994; Miller & Friesen, 1982), and this requirement may gear the entrepreneurial inclination among managers. The characteristics of the environment play an important role in executives' pursuits of firm level entrepreneurship.

In particular, executives' perceptions of the environment frame their definitions of the issues facing their company and actions (Zahra & Pearce, 1990). Zahra (1991) has argued that information from the environment is presented in the form of "precipitating events" that stimulate entrepreneurial activities and thus, to understand variations in CE, executives' perceptions of the external environment should be recognized. Davis et al. (1991:45) further see environmental change as the essence of EO, rather than only being a trigger. They claim that "the entrepreneurial firm does not simply adapt to external developments, but instead, becomes the agent of change". In other words, as Morris and Paul (1987:249) put it "EO represents a strategic approach to the organization's environment". Thus, following previous research (Simsek et al., 2007) the initial effect of environmental assessments, as perceptual in nature, is expected to be on the formation of EO in the minds of the top management, by framing their definitions what the company is facing and the entrepreneurial actions required to deal with them. Thus:

Hypothesis 3: Perceived environmental i. hostility, ii. dynamism, and iii. technological complexity is positively related to entrepreneurial orientation.

Aside from these antecedent impacts, as mainly analyzed in the previous literature, the organizations' success in forming a good fit between their actions and the environment, may ease or impede the transformation of CE into performance, i.e. moderator affect. The effort and resource put in turning the strategic orientation into action may then payoff. As (Miller, 1988) argues, when customers are ready to put a premium on innovation and unique services, CE behavior become more successful in bringing good performance. Empirical observations (Wiklund & Shepherd, 2005; Zahra, 1993) besides theoretical propositions mentioned previously, also support this notion that environment also may play a moderating role between CE and performance. Consequently, it is expected that organizations that succeed to respond to challenging

environmental conditions by forming a good fit, through new combinations of innovation, renewal and/or venturing activities, end up with better performance. In support, it is hypothesized that:

Hypothesis 9[5]*: Performance is jointly determined by the interaction of increased i. hostility, ii. dynamism, and iii. technological complexity in the perception of environment and all forms of corporate entrepreneurship: a) corporate innovativeness, b) corporate strategic renewal, and c) corporate venturing.*

In the case of Turkish economy as explained previously, the transformation process has shifted to another level, especially in the last years. This dynamic and quite rapid transition also has left the economy, which was not sufficiently powerful and sheltered, open to crises. Thus, this transition period has also been accompanied by a series of both large and small financial and economic crises. Consequently, the unstable economic environment of the Turkish context, may strengthen the impact of dynamism and hostility so that these two prevail the factors influencing the relationship. Technological complexity compared to advanced countries is still highly low in Turkey. Thus, its positive impact might not be expected to be as influential as the other two external factors.

2.3.2. A Unique Internal Resource Set Behind: Organizational Culture

"It is difficult to name a single highly successful company, one that is a recognized leader in its industry that does not have a distinctive, readily identifiable organizational culture".
Cameron (2004:2)

Aside form the external context, past research has shown that the internal context plays a key role in triggering firm level entrepreneurship (Hornsby, Kuratko, & Montagno, 1999; Kuratko, Montagno, & Hornsby, 1990). However, though the intra-organizational environment has been relatively one of the most studied topics in the literature, empirical research has been limited, both in volume and scope (Hornsby et al., 2002). While there has been no agreement on the internal factors enabling firm level entrepreneurship, the company's incentive and control systems (Sathe, 1988),

[5] This hypothesis has been numbered as "9" instead of "4" to keep it parallel to testing order, details of which are presented in Chapter 4.

culture (Brazeal, 1993; Kanter, 1985), organizational structure (Covin & Slevin, 1991; (Naman & Slevin, 1993), and management support (Stevenson & Jarillo, 1990) can be counted among the leading variables, researchers have sought to identify. This thesis takes the challenge and attempts to integrate a highly important but at the same time ignored internal factor (Schneider, 1989) of organizational culture (OC) as an indirect antecedent of CE. This might not only help in understanding why or why not EO does not turn into CE activity, but also show OC's indirect influence on the relationship of CE and performance as well. Considering that entrepreneurship is about people, the way they are indoctrinated and the atmosphere they live in should certainly influence CE (Covin & Slevin, 1989; 1991). The next two sections introduce the internal contextual variables and discuss the role of them.

The construct of organizational culture, in spite of its abstract and still abstruse structure has begun to carry out an essential role in many micro and macro level theories (Robert & Wasti, 2002). It has even been seen as the key ingredient which is less tangible, less blatant, but more powerful than the market factors in differentiating extraordinarily successful firms from others by some scholars (Barney, 1986; Cameron, 2004). Schein (1996) has gone further to claim that culture is "one of the most powerful and stable forces operating in organizations". Thus, at the organizational level, unique organizational cultures are believed to be an important source of competitive advantage (Kotter & Heskett, 1992), as they are mostly accepted to touch and influence everything that people do and strategic decisions they take (Kilmann, Saxton, & Serpa, 1985). The relationship between national culture and the elder twin independent entrepreneurship, has been implicitly explored and researchers have found some evidence that broad cultural characteristics are associated with national levels of entrepreneurship (Hayton et al., 2002). Though not consistent over time, high individualism, and low power distance have all been found to be associated with national rates of innovation (Hayton et al., 2002). However, the influence of organizational culture on a firm's ability to develop, maintain, or enhance firm level entrepreneurship has not been adequately tested. To the author's knowledge, only two published empirical studies (Morris, Davis, & Allen, 1994; Zahra, Hayton, & Salvato, 2004) so far, have directly examined the relationship between organizational culture and firm level entrepreneurship (Hayton et al., 2002; Hayton, 2005).

In the first study by Morris et al. (1994; Morris, Avila, & Allen, 1993 is a US version of the same study), researchers have investigated the links between corporate

level individualism-collectivism (ind-col) and EO in three countries. The authors (1994:73) have hypothesized that "a relatively balanced emphasis between individualism and collectivism will result in high levels of entrepreneurial orientation". Data was gathered from three managers, including marketing, and human resources managers in each firm. They have used the personal freedom scale developed by Kilmann and Saxton (1983) which they dropped out from the study at the final analysis, an adaptation of Hofstede's (1980) INDCOL scale, and Earley and Gibson's (1998) measures of collectivism and social loafing, to assess organizational culture. At the end of the study, the hypothesized curvilinear relationship was supported and it was found that a "balanced" level of collectivism and individualism lead to greater entrepreneurship both in American and South African samples, but not significantly in Portuguese sample. Moreover, the authors have demonstrated that ind-col is a meaningful dimension of culture at the organizational level, and it affects organizational outcomes.

In the second more recent study, Zahra et al. (2004) have analyzed specifically the case of family firms through four dimensions (individual vs. group cultural orientation, internal versus external cultural orientation, short vs. long-term time orientation, assumptions concerning the centralization / decentralization of coordination and control), among others gathered by Detert, Schroeder, and Mauriel (2000). Zahra et al. (2004) have shown a nonlinear association between individualism and entrepreneurship in a US sample. The study has targeted CEO's or highest-ranking company officers in each firm and a second manager have been surveyed for validation purposes in 28% of the responding firms. Items for measures have either been based on the literature or developed specifically for the study. The results again have showed that family firms' individual versus group orientation (overlapping with ind-col) has an inverted U-shaped relationship with entrepreneurship. External orientation, long-term orientation, and orientation toward decentralization of control and coordination also were positively associated with entrepreneurship.

Due to scarcity of research, scholars (Covin & Slevin, 1989, 1991; Dess et al., 2003; Hayton et al., 2002) recognizing organizational culture's potential influence have asserted relationship between firm level entrepreneurship and organizational culture as a promising research avenue and called for such research. One of the primary objectives of this study has been to fill the void in the literature, by allocating the OC variable where it should be, to lessen the blurriness behind the mechanism. By testing the role

of the mostly ignored, “residual” (Schneider, 1989) OC phenomenon, through the lens of RBV, this thesis aims to better enlighten the complex structure behind CE by showing the antecedent role of OC on CE, through EO.

As mentioned before, over time, the research has concluded that CE is actually a complex culmination of the interaction of some indeterminate factors (Lumpkin & Dess, 1996; Wiklund & Shepherd, 2005; Zahra, 1991). Such a similar modification is also observed in Schumpeter’s own writings. In his later writings, he has shifted towards a more indeterminist position. In his 1932 manuscript “Development”, the structure of social interaction has been emphasized as having a role to play in bringing about new combinations. Schumpeter (1934) has claimed that the art of recombination extends to the moral, cultural, and social organizational spheres, other than the economic means of production. Thus, in the organizational context, although all entrepreneurial events originate in the creative acts of individuals, the transformation of a creative idea into a successful innovation requires more than individual and even intra-organizational effort (Kanter, 2000). That is a complex and multidimensional phenomenon (Gartner, 1985) and a system of roles and exchanges (Dess et al., 2003). Besides the formal relationships, there are many informal ways that social interactions might be influential in CE. Culture at all levels (national, organizational, and individual) is definitely one of the main phenomena hosting and triggering these indeterminate, informal forces, intentions, modes, and interactions shaping the entrepreneurial behavior.

In parallel, many scholars have highlighted the importance of culture in promoting the discretionary, informal behaviors that lie at the heart of CE (Burgelman, 1983; Hayton, 2005). Kemelgor (2002) has claimed that a key to the relationships between firm level entrepreneurship and selected aspects of organizational performance may reside in organizations’ cultures. Research has already demonstrated that an organization's innovative capacity is affected by cultural norms (Kanter, 1982; Russell & Russell, 1992) and culture can encourage or discourage business-related risk taking, besides determining the level of competitive proactiveness exhibited by an organization (Miller & Friesen, 1984). In the words of Detert et al. (2000:850), “the concept of culture continues to strike managers and management-oriented writers as a key variable in the success or failure of organizational innovations”. Then, how can one think of a phenomenon as important as CE to be independent of such a resource set?

The RBV contends that a firm's resources influence performance and are defined as physical assets, intangible assets, and organizational capabilities that are tied semi-permanently to the firm (Wernerfelt, 1984). Organizational culture identified as a historically unique, causally ambiguous, and/or socially complex structure, forms an ideal example of such an imperfectly imitable resource set. In other words, according to the RBV, organizational culture can be a strategic resource that generates a sustainable competitive advantage (Barney, 1986; Zahra et al., 2004). However, in parallel with Hult et al. (2005), this study conceives this role as a subtle one. Schein (1992) has put forward the essential role cultural values play in shaping managerial views of the environment, appropriate organizational responses, and strategy. Moreover, these cultural values are conceived so as to influence the strategy formulation process and its outcomes (Schneider, 1989). Geletkanycz (1997:618) has cited important number of research suggesting "an examination of the determinants of executives' strategic orientations should also consider the effects of culture" and EO is treated as a strategic approach (Morris & Paul, 1987) in this study. Therefore culture should be one of the key determinants of entrepreneurial activity within an organization (Kuratko, Ireland, Covin, & Hornsby, 2005; Zahra, 1993a; Zahra et al., 1999). It affects the formation of the background phenomenon whatever it is called: orientation / style / mode / disposition. Thus, it is proposed that organizational culture can create and feed the unique strategic entrepreneurial posture. On the other hand, just as culture may affect EO, it is likely that EO may help to shape an organization's culture. At this point, it may easily be envisioned how EO and organizational culture can be mutually reinforcing and thereby, operate in a relationship of reciprocal causality. Even so, though the literature has not offered empirical results to confirm the direction of causality, the primary path will more likely to be from organizational culture to EO (Covin and Slevin, 1991), since organizational culture, as a higher order concept, provides the context within which EO stems.

Although many different definitions of organizational culture have been identified (Cameron, 2004; Smircich, 1983) in many disciplines, there has been a general agreement that culture serves as the "social glue" (Schneider, 1988) binding an organization together. Kilmann et al. (1985) define it as shared (through generations of employees) philosophies, ideologies, values, assumptions, beliefs, expectations, attitudes and norms that knit a community together. The culture represents "the way things are around here" or the prevailing ideology that people carry inside their heads

(Schneider, 1988). These cover not only organizational members' expectations of each other but their expectations of interactions with outside stakeholders as well (Ireland, Hitt, & Sirmon, 2003). It is a holistic, historically determined, and socially constructed phenomenon manifesting itself in a wide range of features of organizational life (Detert et al., 2000) and actual behavioral patterns (Erdogan, Liden, & Kraimer, 2006). As such a higher-order social structure (Bowen & Ostroff, 2004), the organizational culture construct still has an abstract and abstruse structure (Robert & Wasti, 2002). The multi-dimensionality of the phenomenon, lack of awareness of people about their culture until it has been made obvious or challenged by a new culture, and the level of analysis issues have presented challenges to organizational scholars in measuring and operationalizing culture at the firm level (Cameron, 2004; Denison & Mishra, 1995; Schneider, 1988). The study of culture has often been found to be an unmanageable task (Cabrera & Bonache, 1999). As clearly stated by Detert et al. (2000:850), "yet, as the culture concept enters its third decade of active life in the field of organizational studies, debates about epistemology, levels and manifestations of the concept, and appropriate methodology have become 'war games' that threaten the maturity of the concept beyond its preparadigmatic state."

Cameron and Ettington's (1988) review of the literature has ended up with more than 20 dimensions of organizational culture including speed, riskiness, participativeness, clarity, power distance, and individualism, etc. In a more recent work, Detert et al. (2000) have gathered eight dimensions including isolation versus cooperation, orientation to work, task, and coworkers, and stability versus change, after consolidating over 25 multi-concept frameworks. Some instruments such as the Competing Values Framework (Cameron & Freeman, 1991), and Organizational Culture Profile (Klein, Masi, & Weidner, 1995) have been designed to assess these dimensions. Moreover, aside from all these dimensions and assessment indices, there are the broader societal and individual level cultural dimensions: individualism-collectivism, power distance (PD), uncertainty avoidance, and masculinity-femininity, which had become largely popular among scholars, after being discovered by Hofstede (1980). Hofstede values, besides being robust concepts with strong roots both in the anthropology and sociology literature, have been developed as a result of one of the most exhaustive cross-cultural investigation conducted, to date (Shane, Venkataraman, & MacMillan, 1995). Replicated through different samples by various researchers in different time periods, leading researchers have concluded that it meets critical

standards of reliability and validity (Geletkanycz, 1997). Definitely, more specific dimensions of organizational culture mentioned previously, conceptually overlap with these broader constructs of societal culture.

Moreover, organizations are not independent of their contexts and the human beings that constitute them. They are all embedded within societies and cultures, which are likely to have an unavoidable influence on them. As Hofstede, Neuijen, Ohayv, and Sanders (1990) argue, individuals enter organizations as adults, with the bulk of their values acquired firmly in early youth. The societal-culture elements, individuals bring into a company may therefore play a major role in the evolution of the organization's specific culture, particularly in cases where the organization's members share a common (sub)cultural background (Yilmaz, Alpkan, & Ergun, 2005). Adler and Jelinek (1986:86) put the issue as "people entering into organizations with much societal conditioning." Similarly, Robert and Wasti (2002:546) argue that "most people spend a considerable portion of their lives in the workplace, it would seem unlikely that these are important at the individual and societal levels, but not in organizational contexts". Thus, researchers have long recognized that the cultural values of the broader society in which an organization operates, may have fundamental impacts on its culture (Hofstede et al., 1990). Furthermore, construed and validated within the context of large formal organizations, reliance on Hofstede's indices of cultural dimensions in the case of organizational culture may be less of a concern than in the literature on individual entrepreneurship (Hofstede, 1980). Consequently, albeit usually examined at the societal or individual level, these so-called societal dimensions can also be explored at the organizational level (Earley, 1993; Earley & Gibson, 1998; Hofstede et al., 1990; Robert & Wasti, 2002; Yilmaz et al., 2005) and in the entrepreneurial context (Morris et al., 1993). This thesis does the same and uses societal cultural dimensions in assessing organizational culture phenomenon.

However, parallel to what has been done by some scholars (Schneider, 1989), the masculinity-femininity dimension ascribed to gender roles and attributes more than factors associated with strategic orientations and decision processes (Geletkanycz, 1997), and uncertainty avoidance dimension which is still comparatively more problematic than PD and ind-col have been omitted from this study. In place of these two dimensions, a more recent and promising cultural dimension of tightness-looseness (TL), that has been argued to have the potential to explain the relationship between organizational culture and innovation at the organizational level (Gelfand, Nishii, &

Raver, 2006) has been embedded to the study. Defined as the strength of social norms and the degree of sanctioning within societies, cultural TL, has been neglected both in terms of societal and organizational culture (Triandis, 1989). Besides its foreseen good applicability in the Turkish context, complementary to the value based dimensions, this dimension brings forward the external influences such as norms and constraints, social networks, and components of the larger social structure, for consideration (Gelfand et al., 2006).

2.3.2.1. Individualism - collectivism

Since the Hofstede's (1980) seminal work identifying societal cultural dimensions, ind-col appears to attract considerable attention among researchers due to its well-developed theoretical base (Bhagat, Kedia, Harveston, & Triandis, 2002; Robert & Wasti, 2002). In collectivist cultures, priority is on collective goals and cooperative action as opposed to personal interests in individualistic cultures (Earley, 1989). Cooperation and collaboration are the two main themes surrounding the firm's decision-making. Joint contributions to organizational accomplishments, sharing knowledge, cooperating and collaborating are examples of behaviors rewarded explicitly. The modest likelihood that collaboration and cooperation will be observed in individualistic cultures depends largely on the degree to which they are supported by controls and rewards (Chen, Greene, & Crick, 1998). Quite contrarily, in individual-oriented organizational cultures, priority is on pursuing and maximizing individuals' goals, and in turn what is rewarded mainly is the individual excellence. Individual decision-making is preferred over group consensus and these facts depress organizational members from collaborating and sharing new knowledge or information (Triandis, 1995).

However, as Shane (1992; 1993) has asserted, individualistic societies are expected to be more inventive than collectivistic ones as they value freedom that is accepted necessity for creativity, more. Additionally, invention requires an outward-looking view, and may impose disloyal behavior to the organization, which are both more possible in individualistic societies. Finally, the psychological characteristics of independence, achievement, outward orientation, and non-conformity, which have been found to encourage innovation, are all more common in individualistic cultures (Shane,

1992; 1993). On the contrary, again as Shane (1992; 1993) has put forward, cultures that link people in various ways and help them go beyond their job definitions, produce the entrepreneurs inside organizations. Therefore, a participative collaborative management style and innovation is strongly associated. However, free riders, social loafing, and mixed motive behavior are the complicating factors behind collective action, while anarchy, disloyalty, and a concern for short-term self-interest may act as obstacles behind individualism (Shane, 1992; 1993). Thus, while a cultural orientation of individualism facilitates the recognition of radical innovation by individual entrepreneurs, group cultural orientation encourages formal firm level entrepreneurship behavior (Herbig, 1994). Accordingly, ceteris paribus, EO is more likely to be observed in collectivist cultures than in individualistic cultures, while more informal venturing activities are to be observed among individualist cultures.

In one of the two studies examining the relationship between organizational culture and CE, Morris et al. (1994:73) have hypothesized that "a relatively balanced emphasis between individualism and collectivism will result in high levels of entrepreneurial orientation". Results have supported this hypothesis for American and South African samples, but not for Portugal sample. In the other more recent study, Zahra et al, (2004) have also shown that individual versus group orientation (overlapping with ind-col dimension of this study) has an inverted U-shaped relationship with entrepreneurship.

In terms of individualism scores, Turkey resembles to Portugal (27 and 37 respectively for the two countries, Hofstede, 1980) sample of Morris et al. (1994), which did not demonstrate a U-type curvilinear relationship between EO and ind-col. Turkish cultural characteristics (high collectivism, high power distance, and high uncertainty avoidance) point out a perfectly distant entrepreneurship profile, from the ideal type as has been discussed previously in this manuscript. Combining above summarized theoretical and empirical findings, and advantages and disadvantages both individualism and collectivism offer, it can be envisioned that individualism should be more affective in the case of independent and informal entrepreneurship. However, when the focus is firm-level, aggregating theoretical and empirical findings with all the cultural, economic, and structural characteristics, which were elaborated previously in this chapter, more of a linear relationship which shows positive association among high collectivism and EO, is expected in the Turkish context. Thus it is hypothesized that:

Hypothesis 4a: High level of organizational individualism is negatively related to EO.

2.3.2.2. Power distance

Power distance is the extent to which less powerful members of an organization accept and expect as much as their superiors that power is distributed unequally across hierarchical levels (Hofstede, 1980). Cultures with low power distance are typically more egalitarian in nature, with members viewed largely as equals (Geletkanycz, 1997). Higher degree of power distance in an organization, more likely lead to less participative posture in decision making, greater reliance on rules and procedures, and higher levels of subordinate submissiveness; thus increased bureaucracy, less, more formal and more vertical communication patterns, more centralized authority and organizational structures, more fatalistic behavior, and more resistance to change in distribution of power (Newman & Nollen, 1996; Shane, 1992; 1993; Yilmaz et al., 2005). While decentralization enables employees to take initiative and propose new entrepreneurial ideas (Miller, 1983; Pinchot, 1985), centralization may stifle entrepreneurship by inducing rigidity, by limiting the exchange of entrepreneurial ideas (Kanter, 1983). Bureaucracy and tight controls inhibit creativity and inventiveness (Kanter, 1982; Schollhamer, 1982), and hinder the flexibility necessary for innovation (Sathe, 1988). More vertical and formal communication patterns may hamper knowledge acquisition through exploration and learning and inhibit diffusion of knowledge within the organization, as much of people's inventive activity requires input from others (Kanter 1982; Shane, 1993; Slater & Narver, 1995; Yilmaz et al., 2005). Moreover, inventiveness requires strong work ethic and thus hard-work but hierarchical societies are more fatalistic and less apt to undertake the hard work necessary. Finally, inventions and entrepreneurship often cause social change, some radical. As this might cause those at the top of the hierarchy to fall, hierarchical cultures seek to minimize this change (Shane, 1992; 1993). As a result, a high level of power distance may have many negative implications for EO. Thus it is hypothesized that:

Hypothesis 4b: High level of organizational power distance is negatively related to EO.

2.3.2.3. Tightness - looseness[6]

Albeit scholars in various disciplines (Gelfand et al., 2006) have long recognized the importance of social norms and societal normative context, they have largely been neglected both in terms of societal and organizational culture in spite of their unique and complementary to other cultural dimensions structure (Triandis, 1989). While ind-col and PD relates to how behavior is influenced by one's in-group / others, and authority respectively, TL relates to how behavior is influenced by the strength of social norms and sanctioning, i.e. how clear and pervasive the norms are and how much tolerance there is for deviance from norms. In tight cultures, norms are expressed very clearly and unambiguously. Little deviation from normative behavior is tolerated, and severe sanctions are imposed on those who deviated from norms. By contrast, loose cultures have unclear norms about most social situations or tolerate deviance from the norms. There is a general lack of formality, order, and discipline. Moreover, individuals in tight and loose cultures are expected to differ behaviorally in their openness to change versus preference for stability. Cultures differ on the extent to which they emphasize rules and predictability versus flexibility and experimentation. In their Organizational Culture Profile, O'Reilly, Chatman, & Caldwell (1991) have contrasted organizations that emphasize innovation (e.g., experimentation, risk taking, not being rule oriented) with those that emphasize stability (e.g., rule oriented, focused on predictability, focused on stability). Moreover, research has also shown that flexibility and experimentation versus rule orientation is a central dimension of organizational culture (Hofstede et al., 1990). Flexibility and low emphasis on work rules facilitate innovation while low formalization permits openness, which encourages new ideas and behaviors. Organizations in tight societies generally emphasize rules and predictability, and have cultures of higher constraint while organizations in loose societies generally emphasize flexibility and experimentation, and have cultures of lower constraint. These organizations generally have less order and cohesion, yet greater innovation and more tolerance for organizational change. In organizations where there is less accountability and sanctioning, employees have much more discretion and a wider range of acceptable behavior. This enables higher levels of

[6] As both empirical and conceptual studies about TL are very few, most of the conceptualization and reasoning is based upon the multi-level theory developed by Gelfand et al. (2006).

organizational creativity and innovation. Thus, it is argued that the theory has the potential to explain the relationship between organizational culture and innovation at the organizational level.

Hypothesis 4c: High level of organizational tightness is negatively related to EO.

2.3.3. More "Common" Internal Resources: Management Support

While there has been no agreement on the internal factors that enable firm level entrepreneurship, the company's incentive and control systems (Sathe, 1988), culture (Brazeal, 1993; Kanter, 1985), organizational structure (Covin & Slevin, 1991; Naman & Slevin, 1993), and management support (Stevenson & Jarillo, 1990) can be counted among the leading variables, researchers have sought to identify. Individually and in combination, these factors have been believed to be important antecedents of firm-level entrepreneurship. Kuratko et al. (1990) have realized an exploratory study that has used five foremost internal factors (top management support for corporate entrepreneurship, reward and resource availability, organizational structure and boundaries, risk taking, and time availability), however, the empirical analysis has reduced these factors down to three: management support, organizational structure, and reward and resource availability. In a more recent study Hornsby et al. (2002) have ended up with the conclusion that the literature does converge on at least five possible factors: the appropriate use of rewards, gaining top management support, resource availability, organizational structure, risk-taking and tolerance for failure. However, it has also been emphasized that managers play the foremost role in executing the key role of internal factors (Burgelman, 1983; Chandler, Keller, & Lyon, 2000; Hisrich & Peters, 1986; Hornsby et al., 2002; Kanter, 1985; Pinchot, 1985; Sykes, 1986; Zahra, 1991). In parallel, this thesis prefers to focus on the variables those are at the discretion of management; i.e. management support. Nevertheless, senior executives' continued support to the firm level entrepreneurship has been found as the most important internal factor (Antoncic & Hisrich, 2004; Kuratko et al., 1990; Zahra et al., 2000b). The support is linked to the availability of resources and appropriate rewards (Hayton, 2005). As they are all at the discretion of managers, the appropriate use of rewards and resources in terms of time, training, money, and structural arrangements have all been

grouped as management support and operationalized in this manner. The support can take many forms, from providing necessary resources (including time) and expertise to championing innovative ideas, and from tolerance for failure which in itself accompanies risk taking, to the appropriate use of rewards meaning considering goals, feedback, individual responsibility, and result-based incentives so that willingness to assume risks can be enhanced.

In parallel, the creativity and innovation literatures (Woodman, Sawyer, & Griffin, 1993) have proposed rewards and resources as enhancers of creative behavior and thus organizational creativity. Similarly, Chandler et al. (2000) have found positive association between management support and innovation-supportive culture. Thus, appropriate practices can systematically foster and facilitate innovation and entrepreneurship within an organization (Schuler, 1986). Success in innovation and venturing requires strong management support and the creation of an organizational setting where CE can flourish (Covin & Slevin, 1991). A management style more tolerant of failures, allowing individual workers, time to pursue their own ideas, and supporting through direct budget allocations (MacMillan, Blosk, & Narasimha, 1986). As concisely stated by Barringer and Bluedorn (1999:421) "a firm's ability to increase its entrepreneurial behavior is largely determined by the compatibility of its management practices with its entrepreneurial ambitions." However, the creation of support mechanisms mostly at the discretion of top management, demands a strategic posture toward entrepreneurship as well.

Consequently, an inclination towards entrepreneurship will lead to constitution of support mechanisms that will in turn facilitate the occurrence of CE behavior.

Hypothesis 5: Entrepreneurial orientation is positively related to management support mechanisms.

Hypothesis 6: All forms of corporate entrepreneurship: a) corporate innovativeness, c) corporate venturing, and d) corporate strategic renewal are jointly determined by the interaction of entrepreneurial orientation and management support mechanisms.

Besides scoring high on power distance dimension in Hofstede's study (1980), Aycan (2001:253) has pointed out that Turkish culture has more paternalistic values which has been described as "a subordinate-superior relationship, whereby people in authority assume the role of a parent and consider it an obligation to provide support

and protection to those under their care. Subordinates, in turn, reciprocate such care, support and protection of the paternal authority by showing loyalty, deference and compliance to him / her." These cultural characteristics may stick out the importance of management support for the sample of this study, more than those firms operating in Western cultures. In other words, management support is expected to be a powerful antecedent of CE behavior in this context.

2.3.4. The Relationship with the Dependent Variable: The Performance

"Any systems or "macro" models of entrepreneurship, and certainly any model of entrepreneurship as firm behavior, would be remiss to ignore or subordinate the construct of firm performance." Covin and Slevin, (1991:9)

Most of the studies in the strategic management field view the quest to explain performance as the cornerstone of the research (Hult et al., 2005; Rumelt et al., 1994). Each revealing important and unique information, growth, and profitability are two widely accepted essential dimensions of a firm's economic performance. Reaching favorable figures in these dimensions is the basic incentive of doing business and thus entrepreneurial efforts (Covin & Slevin, 1991; Wiklund, 1999).

Accordingly, firm level entrepreneurship has been seen both by practitioner oriented gurus (Peters & Waterman, 1982; Kanter, 1989; and Pinchot, 1985) and academic studies (Guth & Ginsberg, 1990; Hornsby, Naffziger, Kuratko, & Montagno, 1993; Zahra, 1993) as a recipe for long-term success (Birkinshaw, 1999). It has been accepted and shown in various studies to make a difference in successful firm performance (Zahra & Covin, 1995; Zahra & Nielsen, 2002), improved profitability (Covin & Slevin, 1991), growth (Zahra, 1991; 1993; 1995; Wiklund, 1999), wealth generation (Antoncic & Hisrich, 2004), increased competitive advantage (Miller, 1983; Covin & Slevin, 1989; Lumpkin & Dess, 1996; Zahra 1993;), new capability acquisition (Stopford & Baden–Fuller, 1994), new business entrance (Miller, 1983; Zahra, 1993b), and international success (Birkinshaw, 1997). In various studies (Wiklund, 1999; Zahra & Covin, 1995) it has also been showed that the positive effect on performance increases over time. Firm level entrepreneurship has even been proposed to be an important concept of "promoting efficiency, improving productivity, and delivering better service to public even in public organizations" (Morris & Jones, 1999:86).

However, in spite of the bulk of the anecdotal and testimonial evidence (Zahra, 1991), there has been a lack of systematic empirical evidence that firm level entrepreneurship leads to improved performance (Covin & Slevin, 1991; Wiklund & Shepherd, 2005; Zahra, 1991). Beyond Miller and Friesen's (1982) warning that excessive entrepreneurship can harm performance, some other researchers ((BarNir, Gallaugher, & Auger, 2003; Hart, 1992; Kanter, 1989; Smart & Conant, 1994; Sykes, 1986; Sykes & Block, 1989) have reported a number of firm level entrepreneurship failures and noted the inconclusiveness of the empirical link to performance (Sexton & Bowman-Upton, 1991) as well. Supportively, Wiklund (1998), has called researchers to "investigate the relationship between EO and entrepreneurial behavior in more detail".

Recently researchers have responded to aforementioned call and examined this incomplete picture of performance (Moreno & Casillas, 2008; Wang, 2008). While Wang has proposed learning orientation as the missing link in the examination of the EO–performance relationship, Moreno and Casillas (2008) have focused on the growth component of the performance. While these may be plausible explanations, the researcher asserts that the contradictory mixed results about CE – performance relationship is due to use of EO construct in place of CE. As Sackmann (1992:140) briefly points out, "given that organizations are purposive, the manifestations of ideas in practices are important." In light of these and above summarized conceptualizations of EO and CE, this study tries to attract attention to an important factor mediating the relationship between EO and performance: the function of CE or actual CE behavior / outcome. Under this formulation, as well as roles and meanings attached to both terms, it is proposed that it will be possible to find a solid, systematic direct positive relationship between firm level entrepreneurship and performance. Thus, it is hypothesized that:

Hypothesis 7: All forms of corporate entrepreneurship: a) corporate innovativeness, b) corporate strategic renewal, and c) corporate venturing is positively related to performance.

Hypothesis 8: All forms of corporate entrepreneurship: a) corporate innovativeness, b) corporate strategic renewal, and c) corporate venturing serves as a mediating variable between entrepreneurial orientation and performance.

In existing studies the content of performance is limited mainly with financial indicators. Basically, traditional accounting measures such as sales, market share, growth (in sales, in market share, in number of employees; ability to fund growth from profits), and profitability (return on equity; return on total assets; return on investment, profit margin on sales; profit to sales ratio, cash flow from operations, net profit from operations, and earnings per share) have been assessed (Covin & Slevin, 1988; 1989; Lumpkin & Dess, 1996; Miller & Friesen, 1982; Wiklund, 1998; Zahra, 1993; Zahra & Covin, 1995). However, there are also the non-imitable, non-substitutable, or intangible resources as outcomes (Barney, 1991), which have been neglected mostly. As Burgelman (1983a:1355) put it, "there has been a systematic bias toward underestimating the true benefits of entrepreneurial activities for the organization, even if they turn out to be failures. The focus is usually on the financial cost of such failures, without correction for the "hidden benefits" which result in organizational learning and/or organizational mobilization." One suggested precaution to overcome this limitation has been to incorporate a stakeholder perspective similar to the balanced scorecard tool used in measuring performance of a firm (Dess et al., 2003). Incorporating the value created for customers, suppliers, and employees could have been other points of concern. Thus, the non-financial performance has also been an issue at stake in this thesis.

3.
RESEARCH METHOD

The purpose of chapter 3 is to briefly outline the research strategy and design, i.e. overall research scheme of the study. The chapter begins with outlining the procedures followed in developing the questionnaire, collecting the data, and describing the sample. The chapter continuing with the discussion of the operationalizations of the variables, ends with describing the preliminary analyses applied for assessing the validity and reliability of the measures.

3.1. Research Strategy and Design

As the field study approach allowed for the realism of environmental and structural contexts, which were significant factors in the hypothesized relationships, the research has been planned as a survey study. The survey approach not only gave the opportunity to access strategy making processes with minimal intrusiveness by the researcher (Lumpkin, 1996), but offered time and financial efficiency as well. The research design discussed in detail below, addressed the recommendations made by Harrigan (1983), for the field research of contingent relationships in strategy research. Multiple data sources from different firms operating in a wide variety of industries have been utilized.

3.1.1. Questionnaire Development

Before all else, a robust research project requires proper data collection. Thus, the primary task at hand was to develop a valid and reliable measuring instrument and apply it to a representative sample of the population, eliminating bias as much as possible. The questionnaire, designed for a cross-sectional survey, was developed in two stages: exploratory phase and final phase.

The exploratory stage composed of two sub-sections, namely pre-test and pilot-test phases respectively. The aim was to develop and test the measuring instrument so that it could be used successfully in the final stage. The identification of the constructs, related items, and underlying factors, on which the pre-test (subsequently the pilot and final) questionnaire has been based, started during the literature review and were later reinforced during the exploratory stage. Though almost all of the constructs have been modified and enriched with some new items, to a varying extent, variables were mainly measured through existing scales developed and tested previously in the literature, mostly in North America based samples. Thus, the translation was one of the initial jobs to be completed. In the translation of items, and formation of the initial instrument in Turkish, the guidelines of Brislin (1980) were followed. A bilingual Turkish native translated the materials into Turkish and a second bilingual Turkish native retranslated this version back into English. Another bilingual native English editor compared the original questions with back-translated material. After small adjustments, the Turkish version and English versions were finally compared and controlled separately by two bilingual Turkish speakers.

In the very first draft of the questionnaire, a total of 22 constructs were measured by three to 28 items each, with a total of 202 questions. To avoid informants assume a limited time frame, and to more completely capture the more generalized trends firms were experiencing, questions have been framed in the present tense and general terms. For the same reason, in items questioning past behavior or actions, informants were asked to assess all variables considering the previous three years on average, as a reference point. Each page of the leaflet included the explanation of the scale intervals and each group of questions was preceded by an example to visualize what is demanded. The finalized version covered five broad categories: namely 1) participant information, 2) firm environment; where the bulk of the questions related to the

constructs were directed in five subsections, 3) performance, 4) company information, and 5) objective validation.

Throughout the survey development phase, the good practice recommended by Dillman (2000), Huber and Power (1985), and Newby, Watson, and Woodliff (2003), relating to questionnaire salience, length, return postage, anonymity guarantee, and university sponsorship have all been considered. The final questionnaire with its eight pages leaflet format included the logo of the researcher's university, and a small notification letter on the cover page emphasizing the scientific purposes, confidentiality, anonymity, and directions to be followed while filling out the survey. In order to minimize the social desirability bias in the measurement of constructs, the informants were reminded that there were no right or wrong answers to the questions, and guaranteed for confidentiality. Moreover, to motivate the informants to seriously participate and complete the whole questionnaire, an executive summary of the study's findings was offered to those who demanded.

Following this initial translation, adaptation, and formation period, the pre-test phase aimed at clarifying the survey format and questions to ensure that linguistic as well as conceptual equivalence took place. The draft questionnaire was pre-tested with three different groups of respondents. The primary pre-test group was composed of practitioners with a similar profile to the field survey population set. The group members, of whom none were taken to final sampling group, were composed of 17 individuals from 11 different companies in the managerial or above levels. 10 of these feedbacks, where six of those were from the same company, were gathered through face-to-face interviews where the respondent and the researcher experienced all the questions, and the whole instrument. The interviews lasting an average of one hour were conducted following a semi-structured format. The second pre-test group where feedbacks were gathered mainly through e-mail was composed of five academic respondents (three professors in two different universities, and two doctoral students) working in psychology and organizational science area. Last but not least, the third group was composed of two people with completely different backgrounds (one medical doctor and one architect), totally unrelated to the business world and the concepts of the research. Their feedback was gathered through face-to-face interviews as well. All pre-test participants were mainly asked to evaluate all the aspects of the questionnaire, including the wording of individual items, general flow, structure, and the comprehensiveness of the instrument. Prior to the pilot-test, the pre-test participants'

suggestions were incorporated into the survey and the draft survey instrument was revised in terms of structure, format, and wording. This test period not only provided an exploratory approach to aid in operationalizing constructs but also clarified the survey format and questions.

The pilot-test phase, aimed to assess the face validity and the reliability of all the psychometric measures that were to be utilized throughout the study, followed this initial pre-test period. The objective was to create a comprehensible, applicable, valid, and reliable measuring instrument for the field survey. The pre-test finalized draft version of the questionnaire was e-mailed to 141 respondents from 88 companies with profiles quite similar to those in the final sample. 50 respondents from 32 different firms returned with completed and usable surveys. Data was used to create a reliable and valid measuring instrument at the final stage. After initial reliability analysis, exploratory and confirmatory factor analyses (EFA and CFA) were applied to all constructs. Scales were refined and operationalizations of all variables were completed at this stage. Due to the relatively small sample size, the researcher was not strict in omitting items; thus, only truly and systematically problematic items were dropped. Some of the other changes involved cleaning-up the appearance, clarifying the wording of the survey, and changing content. In the final questionnaire, 22 different constructs were measured by three to 14 items each, with the questionnaire containing a total of 180 questions. Consequently, a more comprehensive instrument with much more refined and meaningful measures were reached at the end of six revisions. A copy of the finalized version of the survey can be found in Appendix A.

3.1.2. The Sample

The goal of the sampling was to contact multiple management-level informants, including the "senior-most" managers, from non-diversified, established, and listed firms operating in different industries. The population of the study consisted of the ISE listed firms as of June 2006 and the İstanbul Chamber of Industry (ICI) top 500 firms in years 2003, 2004, and 2005. The leading reasons behind selecting this population were their acknowledged importance to the Turkish economy, their potential to be more on the cutting edge in developing CE because of rising international competition, and the relative maturity of many of their primary industries.

In sampling, several criteria were set to reduce the possibility of interpretational confounds. An inter-industry sample was targeted to ensure sufficient sample size and generalizability of the results. However, a population of non-diversified firms was preferred to reduce the confounding effects of diversification and to ensure that the responses of managers queried would be focused on the environmental, structural, managerial, and entrepreneurial aspects of their principal business activity. Non-diversification was achieved by sampling firms those generate at least 70 % of their sales from a single industry and operate primarily in one area of business based upon Rumelt's (1974) definition of a single industry or dominant firm (Barringer & Bluedorn, 1999; Zahra, 1993). Similarly, to move beyond the threshold of "newness" and thus to reduce the potential bias associated with it and survivor bias (Zahra & Garvis, 2000), the final sample included those firms, which have been in existence for at least five years. Five years was chosen because of research indicating that the first five years were the most critical years after which firms' practices presumably approximated those of established firms rather than those of new ventures (Covin & Slevin, 1989). To ensure a minimum operating structure, the firms with at least ten employees, large enough to exhibit some degrees of formality, specialization, and organizational differentiation (Lumpkin, 1996) were targeted as well. Finally, the key informant approach, which has long been fruitfully used in the strategy research (Hult et al., 2005), was implemented in the study.

3.1.2.1. Key informant issue: common method bias?

General Managers and/or CEO's typically appreciate a company's "total picture" and are intimately familiar with the firm's environment, strategy, structure, and performance (Covin & Slevin, 1988; Kanter, 1986; Zahra, 1991; 1996). Arguably, they are the best-qualified persons to provide strategy-related information (Covin, 1991; Hambrick, 1981; Zahra, 1991). The CE literature, with roots in strategy, has mostly relied on data gathered through single respondents, i.e. key informants as in strategy literature. Similarly in this study, the data from "senior-most" informants who were supposed to be better positioned than other managers, by virtue of their position, to know their firms' overall operations was utilized (Green, Covin, & Slevin, 2008; John & Weitz, 1988). However, due to the complexity of the business operations of the firms'

studied, busy schedules, and potential faulty recollection, this reliance on self-reported data from single informants, left the analysis open to the potential of common method bias (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). Albeit several studies (Bagozzi & Yi., 1990; Spector, 1987; 2006; Williams, Cote, & Buckley, 1989) have examined the effect of common method variance and resulted in mixed findings, scholars are cautious and recommend both procedural and statistical methods to minimize the bias (Podsakoff et al., 2003). Therefore in this study, to address these concerns, data from various secondary sources and the secondary informants were used to corroborate the measures as much as possible. Several other recommended steps summarized below, were taken as well to mitigate, detect, and control for this bias, and found no traces of it.

To begin with, as explained previously and will be repeated in data gathering section, the informants were assured of the confidentiality and anonymity to reduce the evaluation apprehension (a procedure recommended by Podsakoff et al., 2003). A signal showing the importance given to anonymity was that, only 170 out of 526 (32%) total responding informants had disclosed their names on the questionnaire. Besides, all survey items had been carefully constructed after two staged exploratory phase and wherever possible, pre-tested, valid multidimensional constructs had been used (Huber & Power, 1985).

Secondly, the sampling endeavored to include two more senior level managers from each firm. Albeit the key informants' positions qualified them to be involved in the firm's decision-making processes and thus to comment on the issues of interest organization wide (Green et al., 2008; Huber & Power, 1985), the goal was to ensure methodological rigorousness by validating the data through multiple informants. In each firm, the surveys were sent to one senior manager (mostly CEO's, or General Managers, but VP's in some cases) besides two other managers. The names of the targeted informants and addresses were gathered through secondary data resources of ISE and ICI and had been verified for all firms by phone calls made. Unfortunately, the relatively small number of the total population and small top management teams in some firms, made the "three-informants per each firm" goal set at the beginning, unachievable for all firms. Anyhow, usable secondary responds were compiled from 156 firms, reaching up to a 45% of the total responding informants. This high figure provided a good chance of corroboration and validation possibility, especially when the fact that only 19% of the studies have surveyed a second respondent for inter-rater reliability purposes in the firm level entrepreneurship literature (Zahra et al., 1999), is

considered. Thus, following the guidelines suggested by Huber and Power (1985), the responding senior-most managers were treated as the "key informants", and the secondary informants' data from 156 firms were used for corroboration purposes. In the sample, having been employed by their firm for 12 years, the average informant had six years of tenure in the position. These statistics lend further credence to the earlier assertion that these individuals should be reasonably well informed about this study's focal constructs.

Thirdly, a Harman's single-factor test, a technique often adopted by researchers to examine the common method bias, was conducted. The existence of a common source or method bias is revealed when a single common factor emerges or a general factor emerges that accounts for the majority of the variance in the variables (Podsakoff & Organ, 1986). All the 20 variables of the study (including the validation constructs and EO dimensions separately), other than covariates were entered into factor analysis. The results revealed that no single factor emerged from this analysis, nor was there a general factor which could account for the majority of variance in these variables. The principle axis factoring with varimax rotation analysis generated exactly 20 factors with eigen values above unity, with the first factor accounting for 18.5% of the covariance among the items. Following Podsakoff and Organ (1986), it has been concluded that source bias was not a serious problem in this study. Moreover, as a more sophisticated analysis method, CFA was conducted to test the hypothesis that a single latent factor would account for all of the variance in the data (Kandemir et al., 2006). The measurement model where all the 13 constructs (including the all three different dependent variables) of the study other than the second order factor of EO, were allowed to freely inter-correlate was compared to a one-factor model structure. Specifically, a thirteen-factor model was compared with a model where all items loaded on one factor. Table 3.1 shows that the improvement in the fit statistics of the thirteen-factor model over the one-factor model is highly significant ($\Delta\chi^2$ (78, N = 273) = 177.89, $p < 0.001$). Furthermore, the goodness-of-fit indices indicate a poor fit for the single factor model, which suggests that biasing from common method variance has been unlikely.

To further detect any possible bias, data gathered through secondary informants were analyzed and compared with key informants' responses. First of all, following past literature (Kumar, Stern, & Anderson, 1993; Wright et al., 2001) the inter-rater agreement index (r_{wg}) (James, Demaree, & Wolf, 1993), used when researchers have multiple respondents and wish to show sufficient agreement among those respondents

was utilized. On each of the questionnaire's items, r_{wg} was examined for each construct and for each firm. Median within group inter-rater agreement values for all constructs were between 0.91 – 0.99, while means were ranging between 0.81 – 0.99 indicating high agreement (Erdogan et al., 2006).

Table 3.1

Goodness-of-fit indices for measurement model and one factor model

Model	*n*	χ^2	df	χ^2/df	CFI	NNFI	IFI	RMSEA
One-factor	273	7,621.32	1,710	4.46	0.75	0.75	0.76	0.11
Thirteen-factor	273	2,348.24	1,632	1.44	0.97	0.97	0.97	0.04

Note: CFI= comparative fit index; NNFI=non-normed fit index; IFI= incremental fit index; RMSEA= root mean-square error of approximation

Secondly, as previously done in the literature (Zahra & Hayton, 2008; Zahra et al., 2000b; Zahra & Nielsen, 2002) responses from the two executives were correlated on all survey items to determine another kind of inter-rater agreement. Measures were significant and consistent with the literature (Zahra & Covin, 1995, Zahra & Garvis, 2000). The simple correlations between responses of senior managers were statistically significant across each variable for all the firms other than six of them, with an average correlation across all variables of r = 0.50, indicating significant inter-rater agreement. While statistically significant ($p<0.001$) for all the firms other than two, these correlation coefficients indicated less than perfect agreement between the primary and secondary informants. One factor that might have contributed to this imperfectness could be managers' different access to information, which can lead to different perceptions and opinions among them (Zahra & Hayton, 2008). Even when they were intimately involved in the same organizational activities, managers might not have had access to the same information. Organizational political factors might affect the distribution of information in an organization (Pfeffer, 1981) and even when managers have had access to the same information, they might not draw similar conclusions or recall it in the same way. Besides, these discrepancies might have existed due to differences between the two informants in the way they defined opportunities and threats, and perceived their firms' environments. Furthermore, because of their different roles and responsibilities, primary and secondary informants might have focused on different aspects of their firm's external and internal environments and

might have emphasized different parts of their environments and addressed different strategic issues. Thus, it is quite reasonable and fairly common for managers at different levels to perceive things quite differently which is to color informants' views (Zahra & Hayton, 2008).

Thirdly, results of t-tests comparing the primary and secondary informants' mean scores on each research variable revealed no significant differences between these two categories of informants, on any of the constructs.

Finally the multi-source data was used to replicate the single-source based findings by varying the source of the constructs in the proposed CE mediation of EO and performance. To establish comparability across samples, tests on this sub-sample were first run using only the responses from the key informants and found results for Hypotheses 7–8 that were consistent in direction and significance with that which was found from the larger sample of single source response data. Then the same tests were repeated by using second executive data for the EO constructs and key informant data for the exogenous construct of performance and CE. Although the results were quite parallel, the main single difference was that EO was not positively related to profitability in the replicated run. Thus, in both sub-samples and runs, innovativeness and strategic renewal mediated the relationship of EO with both growth and non-financial performance. However being differently, in the single key informant case, strategic renewal and innovativeness also mediated the relationship of EO with profit. In another replication, to break the causal chain, key informant data was used for CE constructs while second executive data has been used for EO and performance constructs. The results replicated the findings of larger data for the relationship between EO and CE. However the same could not be argued for the relationship between CE and performance. This difference could be due to reluctance of lower level executives compared to key informants in sharing private performance data. One other explanation might be the larger information data set available for the key informants especially in truly evaluating the performance data.

Considering all the above mentioned tests, it could be argued that, in overall the data furnished by the secondary informants supported the treatment of the primary respondents as key informants in this research.

3.1.3. Data Collection

The data was collected using standardized questionnaires through the survey method. To increase the return rate, a slightly modified version of Dillman's (2000) five-wave mailing methodology with response facilitation techniques recommended, was employed. The methodology has been based on a series of specifically timed follow-up mailings, each of which differs substantially from others. Depending on numerous surveys, Dillman has claimed that response rates would be less than half without his carefully designed follow-up sequence, regardless of how interesting the questionnaire or impressive the mail-out package.

In a total of 19 weeks time, six different waves were mailed. In each wave, every questionnaire was mailed personally to the identified key informants in the target population. The first mailing was an invitation and announcement letter, briefly announcing the survey while explaining the scientific purposes and assuring confidentiality. Five days after this initial mailing, the research instrument was mailed along with a business reply envelope to those in the initial mailing list. A cover letter accompanying the survey, briefly explained the purpose of the study, assured confidentiality, and offered an executive summary of the study's result to those willing to. The first follow-up consisted of a thank you / reminder letter mailed to everyone on the list, 11 days after the initial mailing. Besides thanking everyone who had already completed the survey, this letter served as a friendly reminder for those who had not. Five weeks after the original mail-out, a replacement questionnaire with a business reply envelope and the same cover letter, was mailed to all non-respondents till that time. Finally, ten weeks after this mailing, a last call stressing the attendance of more than one informant from each firm, was made to firms where only a single informant out of three has returned the survey. To emphasize the importance, the final replacement questionnaire accompanied by another cover letter was posted by private cargo. Telephone calls besides e-mail follow-ups, accompanied the cargo, whenever possible. Three weeks after the fifth wave, a final thank you letter mailed to all informants of fourth and fifth mail-out, and non-respondents of fifth mailing, finished the entire mailing process. The responses were tracked according to their mail-out date.

At the end, a total of 520 usable questionnaires from 347 firms out of a sample population of 2,040 key informants from 680 firms were received. This corresponded to an effective response rate of 51% firm-wise, and 25% informant-wise. More detailed

information about sample demographics can be found in section "4.1. Descriptives and Demographics". Given the length of the survey these response rates compared well with those reported in previous research (Zahra, 1991), especially amongst research on top managers. In fact, given that senior executives had busy schedules and received numerous requests to provide data, it was well above the 10–12%[7] rate typical for studies targeting executives in upper echelons (Geletkanycz, 1997; Hambrick, Geletkanycz, & Fredrickson, 1993; Zahra & Pearce, 1990).

3.1.3.1. Non-response bias

Testing for potential response bias was one of the initial analyses conducted. Following Armstrong and Overton (1977), the likelihood of non-response bias was assessed using the extrapolation technique, wherein different group of respondents were compared to other groups of respondents. Late respondents were assumed to be similar to non-respondents, thus grouping was based upon this assumption. In the initial analysis, the respondents were grouped into five different clusters, according to all mailing waves conducted. Considering one week as a reasonable time frame for postage, groups were formed with one-week delay time after each mailing wave. As the first mailing was just an announcement without any questionnaire material, the first group was composed of respondents who posted their questionnaires one week after the third wave. The second group consisted of surveys posted till one week after the fourth wave and the grouping continued in this manner (See Table 3.2 for grouping of firms).

All these groups were compared on the basis of company location, age, size based on turnover and employee number, and shareholder structure besides mean responses on all of the constructs of the study. One-way ANOVA analysis results showed no significant ($p<0.05$) differences between any groups, on any of the comparison issues. For another comparison, the total sample was split into two equal sized groups, first (early) and last (late) quartiles on the basis of the dates on which surveys were mailed. Comparisons based on company location, age, size based on turnover and employee number, and shareholder structure besides t-tests between mean responses on each of the constructs, (Covin & Slevin, 1989; Covin et al., 1999) indicated no significant

[7] 10% return rate is also typical return rate of ICI surveys conducted with similar samples.

($p<0.05$) differences between these two groups, as well. Results of these two analyses led to the conclusion that systematic non-response errors would be randomly distributed even if they did exist; hence the bias was not a serious threat.

Table 3.2

Respondent firm's grouping based on respond dates

	Frequency	%	Cumulative %
11/10/06 - 24/10/06	50	14.4	14.4
25/10/06 - 21/11/06	186	53.6	68.0
22/11/06 - 02/02/07	92	26.5	94.5
03/02/07 - 22/02/07	15	4.3	98.8
23/02/07 - after	4	1.2	100.0
Total	**347**	**99.7**	**100.0**

3.2. Reliability and Validity Analysis of the Measures Utilized

Valid measurement is a prerequisite for a successful study of concepts, meaningful results, and insightful theoretical and practical implications. While validity refers to the degree to which an instrument truly measures the construct it is supposed to measure, a necessary prerequisite for validity is that of reliability. Reliability, or internal consistency, is essentially the degree to which instruments are free from error and thereby yield consistently accurate measures of the construct of interest (Churchill, 1979). To paraphrase him (1979), if research in business, by both scholars and practitioners, is ever to advance beyond its current condition, it is critical to devise measures of important business constructs that are both reliable and valid. To reach this aim a considerable amount of time and effort has been put into reliability and validity analyses of constructs in this study as well.

Perhaps the most popular method for assessing reliability has been Cronbach's alpha. The method summarizes the extent to which a set of items, for example, the three statements measuring hostility in the present study, are interrelated with each other. In this study, besides Cronbach's alpha coefficient, where a value around 0.70 has been considered adequate (Cronbach & Shavelson, 2004), composite reliability estimates have been computed for each construct (Fornell & Larcker, 1981) where again a customary cut-off level of 0.70 has been agreed on.

In the case of validity, though there are a great many labels for different types, all have to do with threats and biases, which would undermine the meaningfulness of the research. As one of the essential types, content validity is the extent to which items as a group correlate with a construct (Churchill, 1979; Dunn, Seaker, & Waller, 1994). Testing for content validity is primarily subjective and has intuitively been developed and established through the literature review summarized in chapter two. Moreover, the considerable effort and time put into the exploratory phase of the validation of the research instrument to establish relevance with practice and to eliminate wording problems such as biased, ambiguous, inappropriate or double meaning items, helped to ensure content validity.

Construct validity composed of unidimensionality, convergent, and discriminant validity dimensions as the most salient indicators besides reliability, has also been examined to ensure validity of measures. While unidimensionality refers to exclusiveness of items measuring a construct, convergent validity refers to the degree of agreement between multiple independent attempts measuring a construct. Discriminant validity on the other hand is the extent to which measures of different constructs are distinct indeed (Bagozzi, Yi, & Philips, 1991; Gerbing & Anderson, 1988).

Popular techniques for testing validity are factor analyses. Factor analysis is a multivariate analysis technique that determines underlying dimensions or factors in a set of correlated variables (Field, 2000; Hair, Anderson, Tatham, & Black, 1995; Stewart, 1981). EFA is used when the underlying factors are not known a priori to explore the data for such factors. CFA on the other hand, is used to confirm or test a priori hypotheses about the possible structure of dimensions or factors by selecting and fitting variables to the structures. CFA offers numerous advantages including the generation of measures of the overall fit of a given measurement model. Indeed, it is considered a state of the art method in the assessment of the psychometric properties of measuring instruments (Gerbing & Anderson, 1988).

Given that all the constructs of this study were modified slightly or more, and applied in this context and in this format mostly for the first time, both EFA and CFA were utilized to determine the validity, reliability, and relationships amongst the constructs. Whilst perhaps somewhat over cautious considering the existence of exploratory phase of the study, each variable and group of variables have been subjected to a preliminary analysis where reliability, construct validity, EFA, and CFA test have been conducted. CFA was applied as a single measurement model, i.e. to each

factor individually, to determine construct validity of each variable. After this preliminary analysis conducted for each variable separately, a second-order factor analysis for EO, and a measurement model analysis for all the first-order factors have been examined before hypotheses testing and path analysis.

Thus in the preliminary analysis, after a foremost check of reliability, a construct validity analysis where items have been checked if they capture the underlying construct purportedly measured has been conducted. To this purpose, the Kendall's tau_b correlation analysis has been utilized to check if each item correlated significantly with the total score of all questions within a particular construct. Subsequently, EFA was conducted for each group of constructs, and measures were examined in an attempt to purify and reduce. A confirmatory measurement model analysis finalized this preliminary examination of the measures. All the analyses were conducted at the firm level and thus the effective sample size was a maximum of 347. For the EFA, the widely used and recognized SPSS (version 13 for Windows) was the software of choice, while EQS (version 6.1 for Windows) has been utilized for CFA analysis. The following two sections contain the details and the guidelines followed in conducting the analyses.

3.2.1. EFA

EFA is a data reduction technique for analyzing the structure of inter-item or inter-variable correlations among large numbers of variables by defining a set of common underlying dimensions or factors (Hair et al., 1995; Stewart, 1981). Besides identification of groups of variables that relate to each other, EFA is also useful for assessing the reliability of multiple-item measures (Churchill, 1979). EFA was applied each construct, to determine whether the questionnaire was reliable and whether indicators / items were tapping into their corresponding construct.

Among the several options offered by SPSS, being general, effective, and popular approaches (Field, 2000), the principal axis factoring for the method of extraction, and varimax for the method of rotation has been utilized. The factor extraction was not based on single criterion; the two criteria of Kaiser and scree plot have been used together (Field, 2000). Moreover, only factor loadings with an absolute value greater

than “0.4” have been considered (Field, 2000). In interpreting the results, the researcher followed the guidelines and recommendations by Field (2000).

First of all, the correlation matrix and the significance values of correlation matrix have been checked. Measuring the same underlying dimension, even though they could be the different aspects of the same thing, items were expected to correlate with each other. However, signaling multicollinearity and singularity, high correlation was a problem. To detect multicollinearity or singularity, any variables that correlate very highly with other variables ($r > 0.9$), have been looked for and the determinant of the R-matrix has been checked to confirm if it was above the acceptable limit of 0.00001. To detect the opposite problem of no correlation, several sizeable correlations in excess of “0.3” were looked and Bartlett’s sphericity test result has been checked to see if the test result was significant.

Considering that it would be comforting to have at least 300 cases for factor analysis (Tabacnick & Fidell, 1996), the sample of this study mounting to 347 provided a stable factor solution possibility. However, to ensure sampling adequacy, the Kaiser-Meyer-Olkin (KMO) test result has also been checked to see if it was greater than 0.5. According to Kaiser (1974), while values between 0.5 and 0.7 were mediocre, values between 0.7 and 0.8 were good, and values between 0.8 and 0.9 were superb. Moreover, measures of sampling adequacy (MSA) figures locating at the diagonal of anti image correlation matrix have been checked to see if they were above the acceptable level of 0.5. Finally, in the reproduced correlation matrix the percentage of residuals greater than 0.05 has been checked to see if it was below the accepted level of 50%.

3.2.2. CFA – Structural Equation Modeling (SEM) Measurement Model

In CFA, a model is specified a priori and relationships between manifest and latent variables are tested to determine their existence and importance (Hair et al., 1995). The primary conceptual difference between EFA is that CFA is required to adequately evaluate and refine scales to meet unidimensionality (Gerbing & Anderson, 1988).

The measurement model is one and first of the two-step approach proposed by Anderson and Gerbing (1988) in utilizing SEM. Whilst the two-stage approach is not

without debate, most SEM researchers have advocated the procedure. A measurement model is indeed a CFA where all the constructs of the proposed model are tested simultaneously while freely correlating to each other, to determine whether the manifest variables and related latent variables have satisfactory psychometric properties (Fornell & Larcker, 1981; Garver & Mentzer 1999). The properties of interest are unidimensionality, reliability that is also an assessment of convergent validity, average variance extracted, and the discriminant validity (Fornell & Larcker, 1981).

Thus, though the measurement model formed the primary and essential method of analysis and was applied later just before hypotheses testing and path analysis, the preliminary analysis that began with EFA, continued with CFA process to refine and test for unidimensional measures for each and single construct (Garver & Mentzer, 1999). In the analysis:

Firstly, the standardized loadings of manifest variables onto each construct were checked if they were significant and higher than 0.5 indicating superior convergent validity (Fornell & Larcker, 1981). Even 0.4 has been suggested as a minimum acceptable level for item loadings on established scales (Ford, MacCallum, & Tait, 1986). Following this, error variances were also checked to see if they were positive to ensure that there was no identification problem related to negative variances, or what was termed a Heywood case (Fornell, 1983; Hair et al., 1995).

Subsequently, tests of composite reliability (CR) and average variance extracted (AVE) (Fornell & Larcker, 1981) were conducted to check for validity. As the EQS software did not compute either tests, below formulas were used to compute in MS Excel. CR is a measure of internal consistency, which draws on the standardized loadings and measurement error for each manifest variable, depicting the degree to which it indicates the latent construct. Albeit it is not a standard, a commonly used threshold value for acceptability is 0.70. However, values below 0.70 have been deemed acceptable if the research was exploratory in nature (Hair et al., 1995). The formula is:

$$CR = (\sum \text{Standardized Loading})^2 / (\sum \text{Standardized Loading})^2 + \sum \text{Measurement Error} \qquad 3.1$$

Standardized loadings are obtained from the EQS output and the measurement error for each manifest variable is one minus the reliability of each manifest variable, defined as the square of the manifest variable's standardized loading. AVE on the other hand reflects the overall amount of variance in the manifest variables accounted for by

the latent construct. This measure roughly corresponds to the eigen value in EFA (Shook, Ketchen, Hult, & Kacmar, 2004). Acceptable convergent validity is achieved when the AVE is > 50%. The formula is:

$$AVE = \sum (\text{Standardized Loading}^2) / \sum (\text{Standardized Loading}^2) + \sum \text{Measurement Error} \quad 3.2$$

Finally for assessing the discriminant validity, one of the most common methods (Shook et al., 2004) has been utilized. AVE for each construct has been examined if it was greater than its shared variance (squared correlations) with other constructs (Fornell & Larcker, 1981). Discriminant validity was assured if the average variance extracted for each construct was greater than its shared variance with other constructs.

Besides above mentioned validity tests, the overall fit of the model is another important issue and reference point for evaluation. Albeit the chi-square test is the most common fit measure, it is only recommended for moderate samples of 100 to 200 (Tabachnick & Fidell, 1996). Even with those, the test is suspect and unrealistic in most SEM empirical research (Byrne, 2006). More common are findings of a $\chi 2$ relative to degrees of freedom. The threshold for $\chi 2/df$ should be less than three or less than two in a more restrictive sense (Wang, 2008). Because of limitations in the chi-square test, several fit indices that contrast the fit of one model with the fit of competing or baseline models have emerged. Therefore, instead of significance tests, rules of thumb have been used in determining acceptable fit levels. However, as these heuristics may or may not be appropriate for specific data sets, using multiple measures has been advised (Shook et al., 2004). EQS offers 10 of these indices. However, in their study reviewing the use of the SEM in strategic management, referring to Gerbing & Anderson (1992), Shook et al., (2004) have suggested the DELTA2 index, also referred to as the incremental fit index (IFI), Tucker-Lewis index also called the Bentler-Bonett non-normed fit index (NNFI), the comparative fit index (CFI), and (RMSEA) as the most stable and robust fit indices. A conventional cutoff criterion of 0.90 (Bentler, 1995; Bentler & Bonett, 1980; Tabachnick and Fidell, 1996) has been accepted for all these indices other than RMSEA. In RMSEA values less than 0.05 indicated a very good fit; between 0.05 and 0.08 a moderate fit; between 0.08 and 0.10 a mediocre fit; and above 0.10 indicated a poor fit (Hu & Bentler, 1999; Tabachnick and Fidell, 1996).

3.3. Operationalization, Validation, and Analysis of the Measures

With minor modifications in some and major in others, measures were mainly established around existing scales, developed and tested previously in the literature, mostly in North American samples. In the initial exploratory phase of the study, the scales were adopted to Turkish context and finalized. Almost all constructs were modified with new items embedded to existing scales. There were only slight modifications to existing scales in the case of environmental dimensions, management support, and original three EO dimensions. However in the case of the CE scale, modifications were relatively more and the scale was new in this format and context. Finally, OC scales were much newer in terms of items, format, and context, compared to others. The details of the operationalization of each measure and related preliminary test results can be found in the following section while a list of all the finalized and dropped items can be found with supporting research references, in Appendix B.

3.3.1. Corporate Entrepreneurship

In parallel to in depth discussion in Chapter 2, CE in this study was measured focusing on "what" and "realized new combinations" rather than dispositions. For this purpose, Zahra's (1996) scale based on Guth and Ginsberg's (1990) conceptualization was utilized to measure CE. As such, CE differed from the EO that referred to the predispositions of firms with respect to their entrepreneurial methods, practices, and processes (Simsek et al., 2007). The scale was further modified with items from Simsek (forthcoming), and Zahra et al. (2000b). The measure was further supported and validated by the objective, behavioral questions asked separately at the end. The innovativeness, venturing, and strategic renewal dimensions of the scale were represented by 26 items rated on a single sided, five-point Likert-type scale, ranging from 1 (strongly disagree) to 5 (strongly agree). Informants were asked to assess their firm's level of innovation on nine items, venturing on nine items, and renewal on eight items. The higher the score, the higher the behavior measured. At the end of preliminary analysis, three items from innovativeness, three items from strategic renewal and five items from venturing were dropped.

After reliability analysis, where the alpha coefficients for each factor can be seen in Table 3.3, a construct validity analysis has been conducted to check if the items capture the underlying construct purportedly measured. In the Kendall's tau_b correlation analysis it has been observed that all items of each factor correlated significantly with related total score of that factor.

In the EFA analysis, whose results are summarized in Table 3.3, correlation matrix has been checked initially. Several sizeable correlations were found in excess of 0.3 and no correlation has been above 0.9 (max. r = 0.785), positing appropriateness for factor analysis. Moreover, determinant of input matrix was greater (0.000) than the necessary value of 0.00001 indicating that multicollinearity was not a problem. Bartlett's test of sphericity was significant ($p<0.001$) and the KMO measure was considerably greater (0.85) than 0.6. In the anti-image correlation matrix, diagonal items illustrating MSA were all above (0.72 – 0.94) 0.5. In the reproduced correlation matrix, the percentage of residuals greater than 0.05, was well below (16%) the accepted level of 50%. Three factors with eigen values over one have been extracted as expected.

In the CFA analysis, whose results are summarized in Table 3.4, the three-factor model has been confirmed with all above-acceptable-level fit indices. Moreover, the three-factor model has been compared to one-factor model where all items loaded on one factor. Table 3.4 shows that the improvement in the fit statistics of the three-factor model over the one-factor model is highly significant ($\Delta\chi^2$ (3, N = 332) = 786.36, $p < 0.001$). Furthermore, the goodness-of-fit indices indicate a poor fit for the single factor model, where the indications are opposite for the three-factor model.

The CFA results related to construct validity tests are summarized in Table 3.5 and 3.6. All items loaded significantly on their respective constructs (with the lowest t value 9.43), providing support for the convergent validity of measurement items. All error variances were positive and all composite reliability figures were above the acceptable level. The AVE's other than strategic renewal was also above the acceptable level while the AVE for strategic renewal was marginally below the threshold. All these provided further support for convergent validity. Finally, the discriminant validity was assured as the average variance extracted for each construct was greater than its squared correlations with other constructs as can be observed in Table 3.5.

Table 3.3

CE factors EFA: Three-factor solution

	CE Innovativeness	CE Venturing	CE Strategic Renewal
Alpha	0.91	0.80	0.83
CEI6	0.83		
CEI8	0.80		
CEI9	0.79		
CEI7	0.76		
CEI4	0.66		
CEI2	0.66		
CEV3		0.81	
CEV1		0.78	
CEV2		0.71	
CEV4		0.67	
CESR7			0.80
CESR6			0.68
CESR3			0.53
CESR4			0.53
CESR2			0.46
Eigenvalue	3.80	2.36	2.26
Variance Explained	25.30	15.74	15.13
Cumulative Var. Expl.	25.30	41.04	**56.17**

Table 3.4

CE factors CFA: Fit indices - Comparison of models

	n	χ^2	**df**	χ^2/df	**CFI**	**NNFI**	**IFI**	**RMSEA**
One-factor	332	1,109.55	90	12.33	0.70	0.75	0.75	0.19
Three-factor	332	323.19	87	3.71	0.94	0.93	0.94	0.09

Note: CFI= comparative fit index; NNFI=non-normed fit index; IFI= incremental fit index; RMSEA= root mean-square error of approximation

One of the main constructs of the study, CE, was further validated by some objective questions asked at the very end of the questionnaire. Instead of open questions, to increase the response rate, the informants were offered response scales differing from question to question. The reasonable response intervals had been finalized in the exploratory phase during interviews. At the lowest extreme of each response scale, "0" representing no activity was placed for each question. The higher

the score, the higher the behavior measured. Some of these measures have already been used in previous research in different cases (Eliasson & Davidsson, 2003; Keil et al., 2003; Morris et al., 1994).

Table 3.5

CE factors CFA: Reliability and validity figures

	CEI	CEV	CESR
Composite Reliability	**0.91**	**0.84**	**0.80**
CE Innovativeness (CEI)	**0.62**	0.02	0.31
CE Venturing (CEV)	0.14	**0.56**	0.07
CE Strategic Renewal (CESR)	0.55	0.26	**0.46**

Note: Diagonals are the AVE's, while below diagonals are correlations, and above diagonals are shared variances.

Innovativeness dimension was correlated with informants' responses to questions asked below:

- *What is the number of new process and production related technologies introduced to the market over the past three years by your firm?* (r= 0.397, n= 296, p<0.001)
- *What is the number of new processes and production related technologies your firm plans to introduce to the market this year?* (r= 0.391, n= 283, p<0.001)
- *What is the number of new products/services your firm plans to introduce to the market this year?* (r= 0.313, n= 305, p<0.001)
- *What is the number of patents/copyrights/utility models/geographic signs acquired over the last three years?* (r= 0.308, n= 279, p<0.001)
- *What is the ratio of your employees who have been trained in entrepreneurship or innovativeness?* (r= 0.304, n= 313, p<0.001)
- *What is the number of new products/services your company has introduced to the market over the past three years?* (r= 0.294, n= 314, p<0.001)
- *What is the ratio of your total R&D expenditure to your total sales figure?* (r= 0.291, n= 286, p<0.001)
- *What is the number of new customers acquired in the last three years?* (r= 0.247, n= 281, p<0.001)

Table 3.6

CE factors CFA: Loadings

Ind.	Loading	Ind.	Loading	Ind.	Loading
CEI2	0.70	**CEV1**	0.79	**CESR2**	0.56
CEI4	0.68	**CEV2**	0.74	**CESR3**	0.61
CEI6	0.87	**CEV3**	0.80	**CESR4**	0.56
CEI7	0.81	**CEV4**	0.68	**CESR6**	0.79
CEI8	0.85			**CESR7**	0.82
CEI9	0.80				

Venturing dimension was correlated with informants' responses to the questions asked below:

- *What is the number of independent and/or semi-independent business units established by your company in the last three years?* (r= 0.490, n= 299, p<0.01)
- *What is the number of new business units established and/or financially supported by your firm in the last three years?* (r=0.484, n= 290, p<0.01)
- *What is the number of joint ventures and/or acquisitions realized by your firm in the last three years?* (r= 0.296, n= 307, p<0.01)

Strategic renewal dimension was correlated with informants' responses to questions asked below:

- *What is the number of new managerial, administrative, and/or human resource programs planned to be initiated this year?* (r= 0.428 n= 310, p<0.001)
- *What is the number of managerial, administrative, and/or human resource programs initiated in the last three years?* (r= 0.364, n= 303, p<0.001)

Moreover, there was a single yes-no question: "*Is there a separate R&D unit in your firm?"* which could be affecting all dimensions of CE. Supportively there was significant correlation with CEI (r= 0.313, n= 333, p<0.001) and CESR (r= 0.262, n= 333, p<0.001). To further test this validation, "yes" and "no" respondents were classified according to their average scores on CEI and CESR. The t-tests between these two groups for both dimensions, showed a significant (p<0.001) difference suggesting evidence of construct validity.

Based on all above summarized preliminary analysis, it can be claimed that all the factors of CE met the validity and reliability criteria satisfactorily, confirming that indicators were tapping into their corresponding construct.

3.3.2. Entrepreneurial Orientation

Initially developed by (Khandwalla, 1977), modified by Miller and Friesen (1982), and finalized by Covin and Slevin (1989), the EO scale or slightly modified versions of the instrument, has been the most commonly used measure of firm-level entrepreneurship (Zahra et al., 1999). In a previous study, Bulut, Fis, Aktan, and Yilmaz (2007) have identified 15 more empirical studies using EO scale other than the 12 and 23 studies identified previously in the literature by Wiklund (1998), and Kreiser, Marino, and Weawer (2002), respectively. This corresponded to 31 studies out of a total of 41 empirical studies.

Despite its popularity, the EO operationalization has its weaknesses and the debate on the construct itself continues. As discussed in detail in Chapter 2, even without agreeing on the label of the scale (Brown, Davidsson, & Wiklund, 2001; Wiklund & Shepherd, 2005), "researchers have prematurely agreed on a common measure without establishing its dimensionality or other psychometric properties" Zahra et al. (1999:54). Supportively, Wiklund (1999) has claimed that "given the agreement that Miller's conceptualization captures a wide gamut of a company's entrepreneurial activities" many studies have employed it even before examining in detail.

The original EO scale included three dimensions of innovativeness (I), risk taking (RT), and proactiveness (P). Yet, the number of dimensions was another issue of debate. All three factors were not always evident in every study (Caruana, Morris, & Vella, 1998; Knight, 1997; Richard, Barnett, Dwyer, & Chadwick, 2004) and moreover, Zahra (1991) has claimed that the original three dimensions did not capture all types of CE activities. Supportively, Lumpkin and Dess (1996) have conceptually discussed the inclusion of autonomy (A) and competitive aggressiveness (CA) dimensions. However, though their conceptual study has been credited and cited a lot, very few studies had measured EO with five dimensions (Hughes & Morgan, 2007). Nevertheless, as discussed in Chapter 2, with the assertion that it will clarify the proposed relationships more, EO has been measured as a five dimensional composite construct in this study.

Thus, as proposed by Lumpkin and Dess (1996), the original nine-item scale has been modified and enlarged to include competitive aggressiveness (three items) and autonomy (three items) constructs, by items adapted from Khandwalla (1976), Lumpkin and Dess (2001), Venkatraman (1989), and Shane, Venkataraman, and MacMillan (1995).

Lumpkin and Dess (1996), besides proposing to add two more new dimensions, have argued that the "subdimensions" of EO vary independently of one another. Yet, the multi-dimensionality of the construct has been another issue of debate. Conceptualized initially as a uni-dimensional construct by Miller (1983), almost all followers have analyzed EO as a composite variable. The compositeness mostly has derived from what Miller (1983:780) has pretended:

> In general theorists would not call a firm entrepreneurial if it changed its technology or product line simply by directly imitating competitors while refusing to take any risks. Some proactiveness would be essential as well. By the same token, risk taking firms that are highly leveraged financially are not necessarily entrepreneurial that must also engage in product-market or technological innovation.

However, Zahra (1993:334) has urged researchers to consider multidimensional conceptualizations of CE. In his words: "while it is understandable at this stage (year of 1993) of scholarship in this area, these measures may not fully capture the domain of CE. As research matures, there is a need for studies that map the domain of corporate entrepreneurship and empirically establish the link among its dimensions." Lumpkin and Dess (1996:148) further have argued that, "The products and services that firms proactively bring to the market may be imitative or reflect low innovativeness. This may be the case, for example when a firm enters a foreign market with products that are tried-and-true in domestic markets, but uniquely meet unfilled demand in an untapped market." To them, "developing new products with existing plant capacity" might have been another example pointing out multi-dimensionality. Moreover, later studies analyzing the multidimensionality of the construct statistically (Kreiser et al., 2002; Stetz, Howell, Stewart, Blair, & Fottler, 2000) have shown statistically that the three sub-dimensions of EO display "significant independent variance" and, therefore, should be treated as "unique" variables. Supportively, the meta-analysis by Rauch et al. (2004), has shown that the dimensions of EO vary independently of one another in many situations, statistically. However, as Covin et al. (2006:79) have asserted, the issue is a matter of theorization rather than a problem of measurement. In their words:

> Miller reserved the label of 'entrepreneurial' for firms that are concurrently risk taking, innovative, and proactive. This is rather different than saying sub-dimensions cannot vary independently of one another. Miller originally proposed the construct of EO as a formative construct, such as firms not exhibiting simultaneous risk taking, innovative, and proactive dispositions could not be called entrepreneurial.

Hence, in parallel with Covin et al. (2006) this study has employed the EO as a uni-dimensional, composite variable. To summarize, EO has been measured with its five dimensions, as a uni-dimensional construct, by a seven-point, double sided semantic differential-type Likert scale, anchored by descriptive phrases. The informants were asked to characterize their strategic posture in terms of 16 items. The mean ratings traditionally have been used as the firms' strategic posture scores and the higher the score, the more entrepreneurial the strategic posture was. At the end of preliminary analysis, one item from the autonomy dimension has been dropped.

After the reliability analysis, where the alpha coefficients for each factor can be examined in Table 3.7, a construct validity analysis, where items have been checked if they capture the underlying construct purportedly measured, has been conducted. In the Kendall's tau_b correlation analysis it has been observed that all items of each factor correlated significantly with related total score of that factor.

In the EFA analysis, whose results are summarized in Table 3.7, initially the correlation matrix has been checked. Several sizeable correlations were found in excess of 0.3 and no correlation has been above 0.9 (max. $r = 0.67$), positing appropriateness for factor analysis. Moreover, the determinant of input matrix was greater (0.01) than the necessary value of 0.00001 indicating that multicollinearity was not a problem. Bartlett's test of sphericity was significant ($p<0.001$) and the KMO measure was considerably greater (0.75) than 0.6. In the anti image correlation matrix, diagonal items illustrating MSA were all above (0.65 – 0.85) 0.5 and finally, in the reproduced correlation matrix, the percentage of residuals greater than 0.05, was well below (1%) the accepted level of 50%. Five factors with eigen values over one have been extracted as expected.

As of CFA analysis, for the sake of preliminary analysis, a normal CFA has been initially conducted for EO. Following that, a 2nd order CFA has been examined.

Table 3.7

EO factors EFA: Five-factor solution

	Proactiveness	Autonomy	Aggresiveness	Risk Taking	Innovativeness
Alpha	0.77	0.72	0.73	0.74	0.72
P3	0.84				
P2	0.74				
P1	0.48				
A2		0.77			
A1		0.69			
A3		0.66			
CA2			0.89		
CA3			0.66		
CA1			0.48		
RT2				0.75	
RT1				0.66	
RT3				0.60	
I2					0.68
I3					0.58
I1					0.57
Eigenvalue	1.67	1.58	1.55	1.55	1.49
Variance Explained	11.15	10.52	10.34	10.33	9.95
Cumulative Var. Expl.	11.15	21.67	32.01	42.36	**52.29**

In the CFA analysis, whose results are summarized in Table 3.8, the five-factor model has been confirmed with all above-acceptable-level fit indices. Moreover, the five-factor model has been compared to one-factor model where all items loaded on one factor. Table 3.8 shows that the improvement in the fit statistics of the three-factor model over the one-factor model was highly significant ($\Delta\chi^2$ (2, N = 318) = 498.97, $p < 0.001$). Furthermore, the goodness-of-fit indices indicated a poor fit for the single factor model, where the indications were opposite for the five-factor model.

Table 3.8

EO factors CFA: Fit indices - Comparison of models

	n	χ^2	df	χ^2/df	CFI	IFI	AGFI	RMSEA
One-factor	318	723.31	90	8.04	0.61	0.61	0.64	0.15
Five-factor	318	105.76	80	1.32	0.98	0.98	0.92	0.03

Note: CFI= comparative fit index; NNFI=non-normed fit index; IFI= incremental fit index; RMSEA= root mean-square error of approximation

Table 3.9

EO factors CFA: Loadings

Ind.	Loading	Ind.	Loading	Ind.	Loading	Ind.	Loading	Ind.	Loading
P1	0.60	**CA1**	0.47	**RT1**	0.67	**I1**	0.61	**A1**	0.70
P2	0.77	**CA2**	0.88	**RT2**	0.75	**I2**	0.67	**A2**	0.81
P3	0.85	**CA3**	0.72	**RT3**	0.69	**I3**	0.75	**A3**	0.63

Table 3.10

EO factors CFA: Reliability and validity figures

	P	CA	I	RT	A
Composite Reliability	**0.79**	**0.74**	**0.72**	**0.75**	**0.76**
Proactiveness (P)	**0.56**	0.01	0.22	0.05	0.01
Competitive Aggressiveness (CA)	0.12	**0.50**	0.07	0.03	0.02
Innovativeness (I)	0.46	0.26	**0.46**	0.12	0.02
Risk Taking (RT)	0.23	0.18	0.35	**0.50**	0.05
Autonomy (A)	0.08	0.15	0.15	0.23	**0.51**

Note: Diagonals are the AVE's, while below diagonals are correlations, and above diagonals are shared variances.

The CFA results related to construct validity tests are summarized in Table 3.9 and 3.10. All items loaded significantly on their respective constructs (with the lowest t value being 7.26), providing support for the convergent validity of measurement items. All error variances were positive. All composite reliability figures shown in Table 3.10 were above the acceptable level. All AVE's other than innovativeness were above accepted level and the AVE for innovativeness was only marginally below the acceptable level. These provided further support for convergent validity. Finally, the discriminant validity was assured as the average variance extracted for each construct was greater than its squared correlations with other constructs as can be observed in Table 3.10. Thus, preliminary analysis results were satisfactory.

However constituting the two main variables of the study with high correlations, EO and CE items were further simultaneously factor analyzed. In the EFA analysis, eight factors with eigen values over one have been extracted as expected. In the further CFA analysis, whose results are summarized in Table 3.12, the items under innovativeness heading in both of the scales has been analyzed. The two-factor model has been compared to one-factor model where all items loaded on one factor. The results demonstrate that the improvement in the fit statistics of the two-factor model over the one-factor model was highly significant ($\Delta\chi^2$ (1, N = 32) = 89.05, $p < 0.001$).

Table 3.11

EO & CE simultaneous EFA solution

	CEI	CEV	CESR	P	RT	CA	A	I
CEI6	0.83							
CEI8	0.81							
CEI7	0.73							
CEI9	0.72							
CEI4	0.54							
CEI2	0.53							
CEV3		0.80						
CEV1		0.79						
CEV2		0.71						
CEV4		0.65						
CESR7			0.80					
CESR6			0.69					
CESR4			0.53					
CESR3			0.52					
CESR2			0.45					
P3				0.81				
P2				0.73				
P1				0.46				
RT2					0.77			
RT1					0.63			
RT3					0.58			
CA2						0.86		
CA3						0.67		
CA1						0.49		
A2							0.76	
A1							0.67	
A3							0.63	
I2								0.61
I1								0.51
I3								0.49
Eigenvalue	3.60	2.42	2.38	1.97	1.64	1.61	1.59	1.35
Variance Explained	12.01	8.08	7.92	6.56	5.47	5.36	5.29	4.51
Cumulative Var. Expl.	12.01	20.09	28.01	34.57	40.04	45.41	50.70	55.21

Table 3.12

EO and CE innovation items CFA: Fit indices - Comparison of models

	n	χ^2	df	χ^2/df	CFI	IFI	AGFI	RMSEA
Two-factor	332	89.37	26	3.44	0.97	0.97	0.88	0.09
One-factor	332	178.42	27	6.61	0.93	0.93	0.78	0.13

Note: CFI= comparative fit index; NNFI=non-normed fit index; IFI= incremental fit index; RMSEA= root mean-square error of approximation

3.3.3. External Environment

For measurement of environment, perceptual measures rather than objective measures have been preferred. Besides some practical issues that will be elaborated in the case of performance measure, this had largely to do with theoretical concerns. In the case of environment, what affect strategic behavior eventually are executives' own assessments of environment (Schneider, 1989; Spanos & Lioukas, 2001). Other than the two measures of CE and performance where the focus was measuring the behavior, most of the research in the literature, and this study as well, were interested primarily in the executive's perception shaping the strategy. In essence, EO for instance was in the heads of executives'. Besides the impracticality of finding a "mentally distant" objective indicator for measuring it, it would have been misleading to measure EO in such a way. That could be the explanation of why there has not been a single attempt of doing so in the literature, to the researcher's knowledge. Thus, as Hambrick (1983) and Miller (1988) noted, the manner in which managers perceive their environment has been more critical and relevant to those variables subject to managerial control than to archival measures of the environment. What Lefebvre, Mason and Lefebvre (1997), have labeled as the "influence prism" of CEOs', perceptions might "override factual characteristics of the environment" (1997:861). As Spanos and Lioukas (2001) put it:

> This premise was also supported by the social constructionist perspective that maintained that reality as such was socially constructed and hence, according to Weick (1979) there was no such thing as an "objective" environment, but rather it was those parts of the information flows that the firm enacted through attention and belief. Admittedly, other scholars object to this line of reasoning (e.g., Aldrich, 1979; Dess & Beard, 1984; Keats & Hitt, 1988; Lawless & Finch, 1989), but along with Chattopadhyay, Glick, Miller, & Huber (1999) we could argue that managerial perceptions shape to

a very important extent the strategic behavior of the firm. In this sense, the use of self-reported measures might be justified, albeit not without potential problems.

In parallel, what mattered primarily for the sake of this study were perceptual assessments rather than objective measures. Furthermore, perceptual data has been common practice in the literature (Spanos & Lioukas, 2001) even for performance measures.

Previous studies set in developed and established economies besides transitional economies have conceptualized organizational environment mainly in terms of three dimensions: complexity, dynamism, and hostility (Dess & Beard, 1984; Tan, 2007). However, as mentioned previously, and inline with previous practice in the literature (Zahra, 1993), the complexity dimension has been dropped from this study's focus, as the sample consisted of single-industry firms. Dropping this dimension, another, relatively recent dimension of environment expected to be affecting the firm-level entrepreneurship, namely technological complexity has been added to study.

The hostility (H) dimension was assessed through the largely established and commonly used three items developed and validated by Khandwalla (1976) while dynamism (D) was assessed through five items from Khandwalla (1976) and Miller and Friesen (1978). The technological complexity (T) of the firm's environment was assessed by a total of three items: two from Khandwalla (1977) and one from Miller and Friesen (1984). Thus overall, in a seven-point, double sided semantic differential-type Likert scales, anchored by descriptive phrases, the informants were asked to characterize their firms' environment in a total of 11 items. The informants' ratings on these items were averaged to arrive at a single environmental hostility, dynamism, and technological complexity index for each firm. The higher the index, the more hostile, dynamic, and technologically complex the firm's environment was assessed. At the end of preliminary analysis, two items from dynamism were dropped.

After the reliability analysis where the alpha coefficients for each factor can be found in Table 3.13, a construct validity analysis, where items have been checked if they capture the underlying construct purportedly measured, has been conducted. In the Kendall's tau_b correlation analysis, it has been observed that all three items of each factor correlated significantly with related total score of that factor.

Table 3.13

Envrionmental factors EFA: Three-factor solution

	Technological Complexity	Dynamism	Hostility
Alpha	0.76	0.73	0.71
T1	0.83		
T3	0.64		
T2	0.64		
D2		0.72	
D1		0.63	
D3		0.51	
H1			0.68
H2			0.62
H3			0.57
Eigenvalue	1.63	1.43	1.41
Variance Explained	18.13	15.89	15.68
Cumulative Var. Expl.	18.13	34.02	**49.70**

In the CFA analysis, whose results are summarized in Table 3.14, the three-factor model has been confirmed with all above-acceptable-level fit indices. Moreover, the three-factor model has been compared to one-factor model where all items loaded on one factor. Table 3.14 shows that the improvement in the fit statistics of the three-factor model over the one-factor model is highly significant ($\Delta\chi^2$ (3, N = 335) = 224.34, $p < 0.001$). Furthermore, the goodness-of-fit indices indicated a poor fit for the single factor model, where the indications are exactly opposite for the three-factor model.

The CFA results related to construct validity tests are summarized in Table 3.15 and 3.16. All items loaded significantly on their respective constructs (with the lowest t-value being 9.75), providing support for the convergent validity of measurement items. All error variances were positive and all composite reliability figures shown in Table 3.16 were above the acceptable level.

Whilst the AVE's for hostility and dynamism were marginally below acceptable level, it must be noted that the variance extracted is a complimentary measure only with a purely suggested value. These provided further support for convergent validity. Finally, the discriminant validity was assured as the average variance extracted for each construct was greater than its squared correlations with other constructs as can be observed in Table 3.16. Even AVE results for hostility and dynamism were somewhat

disappointing, considering all other analysis results, those were not significant enough to cause concern.

Table 3.14

Envrionmental factors CFA: Fit indices - Comparison of models

	n	χ^2	df	χ^2/df	CFI	NNFI	IFI	RMSEA
One-factor	335	257.61	27	9.54	0.77	0.70	0.78	0.16
Three-factor	335	33.27	24	1.39	0.99	0.95	0.99	0.03

Note: CFI= comparative fit index; NNFI=non-normed fit index; IFI= incremental fit index; RMSEA= root mean-square error of approximation

Table 3.15

Envrionmental factors CFA: Loadings

Ind.	Loading	Ind.	Loading	Ind.	Loading
H3	0.70	**D1**	0.76	**T1**	0.81
H2	0.67	**D2**	0.69	**T2**	0.68
H1	0.65	**D3**	0.61	**T3**	0.68

Moreover, the relatively less established technological complexity scale has been validated by a single yes-no question: "*Is your firm's principal industry commonly considered a high tech industry?"* (r= 0.453, n= 305, p<0.001). To further test this validation, "yes" respondents were classified as operating in high-tech industries, and "no" respondents were classified as low-tech industries. Those firms classified as operating in high- and low-tech industries had average scores of 5.88 and 3.67 respectively. The t-test between these two scores showed a significant (p<0.001) difference suggesting evidence of construct validity for the self-classification measure (Covin, Slevin, & Covin, 1990).

Based on all the summarized preliminary analysis of individual constructs of environmental context, it can be argued that all the factors met the validity and reliability criteria satisfactorily, confirming that indicators were tapping into their corresponding construct.

Table 3.16

Envrionmental factors CFA: Reliability and validity figures

	H	D	T
Composite Reliability	**0.71**	**0.73**	**0.77**
Hostility (H)	**0.45**	0.26	0.07
Dynamism (D)	0.51	**0.48**	0.10
Technological Complexity (T)	0.26	0.32	**0.53**

Note: Diagonals are the AVE's, while below diagonals are correlations, and above diagonals are shared variances.

3.3.4. Organizational Culture (OC)

Albeit the use of a survey methodology for measuring organizational culture is an ongoing controversial issue in the literature, researchers have frequently used mail surveys to capture organizational culture (Hofstede et al., 1990; Morris et al., 1993; O'Reilly et al., 1991; Yilmaz et al., 2005). It is quite understandable that why surveys may not capture the complex relationships and beliefs that exist in organizational cultures with the same degree of depth and richness achieved through ethnography. Yet, the significant correlations between responses from firms' senior management are reassuring that there is agreement about their cultures. Furthermore, the measures were further validated by the Human Resource Management (HRM) practices exercised in the firms.

Measurement of the constructs was mostly accomplished via bringing together items from several, already developed, and applied (last two in the Turkish context) scales: Morris et al. (1993); Zahra et al. (2004); Robert and Wasti, (2002); and Yilmaz et al. (2005). Ind-col dimension was assessed through 14 items gathered from Chen et al. (1998); Dorfman and Howell, (1988); Morris et al. (1993); Robert and Wasti, (2002); Yilmaz et al. (2005); and Zahra et al. (2004). PD was assessed mainly through seven items of Sigler and Pearson (2000) scale. The scale was further modified with a single item from Robbins and Mukerji (1994). In both constructs, informants were asked to assess their firm's level of appropriate cultural dimension on a five-point, single-sided, Likert-type scale, ranging from 1 (strongly disagree) to 5 (strongly agree). The higher the score, the more collectivist the culture in the ind-col scale; furthermore the higher the score higher the power distance in PD scale were.

In measuring TL, which is quite new to the literature, the researcher utilized some items of existing organicity scale developed by Khandwalla (1976). Formalization and centralization of a firm are indicative of its structure, as is the extent to which the firm is organic or mechanistic. Organic structures, characterized by flexibility in administrative relations, informality, and authority vested in situational expertise, have been argued to facilitate innovation, a vital component of CE. On the other hand, mechanistic structures characterized by rigidity in administrative relations, formality, and strict adherence to bureaucratic values and principles have been claimed to impede innovation (Burns and Stalker, 1994). Mechanistic organizations have higher formalization and centralization, lower internal and external communication, and higher vertical differentiation than organic organizations. Thus two items of the scale developed by Khandwalla (1976) to measure organicity of organizational structures, showed good face validity with the concept of tightness-looseness and two more new items were added from the HRM literature that will be elaborated in OC section. Thus the phenomenon was measured by a seven-point, double sided semantic differential-type Likert scale with four items where higher the score looser the culture was. At the end of preliminary analysis, seven items mostly focused on general terms rather than teamwork were dropped.

After reliability analysis, where the alpha coefficients for each factor can be found in Table 3.17, a construct validity analysis, where items were checked if they capture the underlying construct purportedly measured, was conducted. In the Kendall's tau_b correlation analysis it has been observed that all items of each factor correlated significantly with related total score of that factor.

In the EFA analysis, whose results are summarized in Table 3.17, the correlation matrix has been checked initially. Several sizeable correlations were found in excess of 0.3 and no correlation has been above 0.9 (max. r = 0.77), positing appropriateness for factor analysis. Moreover, determinant of input matrix was greater (0.000) than the necessary value of 0.00001 indicating that multicollinearity was not a problem. Bartlett's test of sphericity was significant ($p<0.001$) and the KMO measure was considerably greater (0.91) than 0.6. In the anti image correlation matrix, diagonal items illustrating MSA were all above (0.73 – 0.95) 0.5. In the reproduced correlation matrix, the percentage of residuals greater than 0.05, was well below (18%) the accepted level of 50%. Consequently, three factors with eigen values over one have been extracted as expected.

Table 3.17

OC factors EFA: Three-factor solution

	Individualism Collectivism	Power Distance	Tightness Looseness
Alpha	0.91	0.86	0.72
IC9	0.83		
IC8	0.83		
IC7	0.77		
IC10	0.74		
IC6	0.68		
IC5	0.66		
IC1	0.52		
PD6		0.71	
PD2		0.67	
PD8		0.65	
PD4		0.63	
PD5		0.63	
PD3		0.63	
PD7		0.56	
PD1		0.56	
TL4			0.70
TL2			0.67
TL1			0.55
TL3			0.51
Eigenvalue	4.02	3.67	1.81
Variance Explained	21.15	19.30	9.55
Cumulative Var. Expl.	21.15	40.45	**50.01**

In the CFA analysis, whose results are summarized in Table 3.18, the three-factor model has been confirmed with all above-acceptable-level fit indices. Moreover, the three-factor model has been compared to one-factor model where all items loaded on one factor. Table 3.18 shows that the improvement in the fit statistics of the three-factor model over the one-factor model is highly significant ($\Delta\chi^2$ (3, N = 334) = 1303.09, $p < 0.001$). Furthermore, the goodness-of-fit indices indicated a poor fit for the single factor model, where the indications are opposite for the three-factor model.

The CFA results related to construct validity tests are summarized in Table 3.19 and 3.20. All items loaded significantly on their respective constructs (with the lowest t-value being 7.70), providing support for the convergent validity of measurement items. Providing support for convergent validity, all error variances were positive and

all composite reliability figures shown in Table 3.20 were above the acceptable level. Whilst the AVE's for collectivism and looseness were marginally below acceptable level, it must be noted that the variance extracted is a complimentary measure only with a purely suggested value. Finally, the discriminant validity was assured as the average variance extracted for each construct was greater than its squared correlations with other constructs as can be observed in Table 3.20. Anyhow, even AVE results for hostility and dynamism were somewhat disappointing, considering all other analysis results; those were not significant enough to cause concern.

Table 3.18

OC factors CFA: Fit indices - Comparison of models

	n	χ^2	df	χ^2/df	CFI	NNFI	IFI	RMSEA
One-factor	334	1,645.15	152	10.82	0.77	0.74	0.77	0.16
Three-factor	334	341.25	149	2.29	0.97	0.96	0.97	0.06

Note: CFI= comparative fit index; NNFI=non-normed fit index; IFI= incremental fit index; RMSEA= root mean-square error of approximation

Table 3.19

OC factors CFA: Loadings

Ind.	Loading	Ind.	Loading	Ind.	Loading
IC1	0.63	**PD1**	0.60	**TL1**	0.52
IC5	0.70	**PD2**	0.72	**TL2**	0.74
IC6	0.77	**PD3**	0.69	**TL3**	0.49
IC7	0.81	**PD4**	0.65	**TL4**	0.75
IC8	0.86	**PD5**	0.64		
IC9	0.85	**PD6**	0.74		
IC10	0.78	**PD7**	0.57		
		PD8	0.68		

One of the most complex concepts of the study to be measured with relatively more modified and less established scales, OC constructs needed to be validated by different measures:

Albeit most studies of organizational culture have not explicitly addressed HRM practices, they have been of interest because of their role in maintaining an organization's unique culture (Hayton, 2005; Schein, 1992). As Deal and Kennedy (1983:502) put it, "cultures are not developed and installed but evolve as individuals carry out a company's daily work". Thus, HRM practices could well be accepted as an

important tool for creating and reinforcing an organization's culture and values (Schein, 1992). As Schneider (1988) puts it, to understand what the behaviors or beliefs actually mean to the participants, underlying assumptions had to be surfaced. To him, the acceptance and implementation of HRM practices such as career planning, appraisal and compensation systems, and selection and socialization, depend on the relationship that exist between corporate and national cultures.

Table 3.20

OC factors CFA: Reliability and validity figures

	IC	PD	TL
Composite Reliability	**0.91**	**0.86**	**0.73**
Collectivism (IC)	**0.44**	0.24	0.13
Power Distance (PD)	-0.49	**0.60**	0.08
Looseness (TL)	-0.37	0.29	**0.41**

Note: Diagonals are the AVE's, while below diagonals are correlations, and above diagonals are shared variances.

In their review article where they have examined how HRM practices were affected by the internal and external contextual factors, Jackson and Schuler (1995) have treated OC and HRM so attached to each other that they are indecomposable. Similarly, Ogbonna and Whipp (1999) call attention to the essential role played by culture in the interplay between organizational strategy and HRM. Moreover, in their more recent article, Bowen and Ostroff (2004) argue that a strong climate, which is essentially similar to a shared organizational culture, affects how individuals share a common interpretation of what behaviors are expected and rewarded. Beyond that, Chandler et al. (2000) have shown positive association between HRM practices and organization's innovation supportive culture. Lau and Ngo (2004) show a similar role for OC in the interplay between HRM and firm performance. Moreover, Collins and Smith (2006) have found positive relationship between HRM practices and organizational social climates. Therefore, as Robert and Wasti (2002) have proposed, HRM practices with the underlying set of values and assumptions they carry, can well be used as a proxy for understanding shared perceptions of the OC.

Thus, this study has utilized the HRM practices as a proxy for OC assessment, for validation purposes. To establish face validity as well as content validity, multiple items that would tap the domains of the construct have been sought and developed based on a review of the literature on the influence of cultural values on HRM practices

(e.g. Earley & Gibson, 1998; Geletkanycz, 1997; Herbig, 1994; Ouchi & Jaeger, 1978; Robert & Wasti, 2002; Schein, 1992; Schneider, 1988; Schuler, 1986). Finalized at the end of the first phase, both for ind-col and PD, informants were asked to assess their firm's HRM practices on a seven-point, double sided semantic differential-type Likert scale. The higher the score, the more individualist the culture in the ind-col scale; furthermore the higher the score higher the power distance in the PD scale were. At the end of preliminary analysis, five items from ind-col construct, and three items from PD construct were dropped.

Table 3.21

HR based OC factors EFA: Two-factor solution

	Individualism Collectivism	Power Distance
Alpha	0.80	0.73
IC3	0.85	
IC4	0.75	
IC1	0.54	
IC5	0.53	
PD2		0.73
PD5		0.63
PD3		0.56
PD1		0.46
Eigenvalue	2.12	1.75
Variance Explained	26.54	21.87
Cumulative Var. Expl.	26.54	**48.41**

In the EFA analysis, whose results are summarized in Table 3.21, the correlation matrix has been checked initially. Several sizeable correlations were found in excess of 0.3 and no correlation has been above 0.9 (max. r = 0.66), positing appropriateness for factor analysis. Moreover, determinant of input matrix was greater (0.066) than the necessary value of 0.00001 indicating that multicollinearity was not a problem. Bartlett's test of sphericity was significant ($p<0.001$) and the KMO measure was considerably greater (0.91) than 0.6. In the anti image correlation matrix, diagonal items illustrating MSA were all above (0.81 – 0.88) 0.5. In the reproduced correlation matrix, the percentage of residuals greater than 0.05, was well below (7%) the accepted level of 50%. Consequently, two factors with eigen values over one have been extracted as expected.

In the CFA analysis, whose results are summarized in Table 3.22, the two-factor model has been confirmed with all above-acceptable-level fit indices. Moreover, the two-factor model has been compared to one-factor model where all items loaded on one factor. Table 3.22 shows that the improvement in the fit statistics of the three-factor model over the one-factor model is highly significant ($\Delta\chi^2$ (1, N = 334) = 110.52, $p < 0.001$). Furthermore, the goodness-of-fit indices indicated a poor fit for the single factor model, where the indications are opposite for the two-factor model.

The CFA results related to construct validity tests are summarized in Table 3.23 and 3.24. All items loaded significantly on their respective constructs (with the lowest t value being 7.26), providing support for the convergent validity of measurement items. Providing support for convergent validity, all error variances were positive and all composite reliability figures shown in Table 3.24 were above the acceptable level. Whilst the AVE for power distance was marginally below acceptable level, it must be noted that the variance extracted is a complimentary measure only with a purely suggested value. Finally, the discriminant validity was assured as the average variance extracted for each construct was greater than its squared correlations with other constructs as can be observed in Table 3.24. Anyhow, even the AVE result for power distance was somewhat disappointing but considering all the other analysis results together, not significant enough to cause concern.

Table 3.22

HR based OC factors CFA: Fit indices - Comparison of models

	n	**χ^2**	**df**	**χ^2/df**	**CFI**	**NNFI**	**IFI**	**RMSEA**
One-factor	340	151.86	20	7.59	0.89	0.85	0.89	0.14
Two-factor	340	41.34	19	2.18	0.98	0.97	0.98	0.06

Note: CFI= comparative fit index; NNFI=non-normed fit index; IFI= incremental fit index; RMSEA= root mean-square error of approximation

Based on all above summarized preliminary analysis of HR based OC constructs, it can be claimed that the factors met the validity and reliability criteria satisfactorily, and could be used for validation purposes.

Supportively HR based PD construct was significantly correlated with norm based PD construct (r= 0.48, n= 347, p<0.001) and norm based IC construct(r= -0.45, n= 345, p<0.001). HR based IC construct was significantly correlated with norm based IC

construct (r= -0.53, n= 345, p<0.001) and norm based PD construct (r= 0.48, n= 346, p<0.001).

Table 3.23

HR based OC factors CFA: Loadings

Ind.	Loading	Ind.	Loading
ICHR1	0.64	**PDHR1**	0.46
ICHR3	0.84	**PDHR2**	0.82
ICHR4	0.76	**PDHR3**	0.57
ICHR5	0.63	**PDHR5**	0.70

Table 3.24

HR based OC factors CFA: Reliability and validity figures

	ICHR	PDHR
Composite Reliability	**0.81**	**0.74**
HR Based Collectivism (ICHR)	**0.52**	0.32
HR Based Power Distance (PDHR)	0.56	**0.42**

Note: Diagonals are the AVE's, while below diagonals are correlations, and above diagonals are shared variances.

In case of TL, Gelfand et al. (2006) expected organizational life stage to affect the degree to which organizations emphasize tightness or looseness, with young start-up firms looser, and more mature older organizations tighter. Thus, a significant relationship with age and TL construct has been examined for further validation purposes in this research as well. However no supporting significance evidence has been found.

3.3.5. Management Support

The scale established and validated by Hornsby, Kuratko, and Zahra, (2002) was used for measuring management support (MS). The seven items of this scale were further modified by two new items gathered from Zahra (1991). A five item, single-sided, Likert-type scale was utilized. The higher the index, the higher the management support was. At the end of preliminary analyses, two items were dropped.

In the EFA analysis, whose results are summarized in Table 3.25, correlation matrix has been checked initially. Several sizeable correlations were found in excess of 0.3 and no correlation has been above 0.9 (max. r = 0.69), positing appropriateness for factor analysis. Moreover, determinant of input matrix was greater (0.005) than the necessary value of 0.00001 indicating that multicollinearity was not a problem. Bartlett's test of sphericity was significant ($p<0.001$) and the KMO measure was considerably greater (0.87) than 0.6. In the anti image correlation matrix, diagonal items illustrating MSA were all above (0.83 – 0.93) 0.5. In the reproduced correlation matrix, the percentage of residuals greater than 0.05, was well below (19%) the accepted level of 50%. Consequently, one factor with eigen value over one has been extracted as expected.

Table 3.25

MS EFA: One-factor solution

	Management Support
Alpha	0.85
MS3	0.80
MS2	0.77
MS8	0.75
MS7	0.63
MS4	0.59
MS1	0.58
MS9	0.57
Eigenvalue	3.21
Variance Explained	45.80
Cumulative Var. Expl.	**45.80**

In the CFA analysis, whose results are summarized in Table 3.26 and 3.27, the one-factor model has been confirmed with all above-acceptable-level fit indices. All items loaded significantly on the construct (with the lowest t value being 9.16), providing support for the convergent validity of measurement items. All error variances were positive. While composite reliability was above the accepted threshold, AVE was only marginally below the threshold value. These provided further support for convergent validity. It must again be noted that the variance extracted is a complimentary measure only with a purely suggested value.

Table 3.26

Management Support CFA: Fit indices

	n	χ^2	df	χ^2/df	CFI	NNFI	IFI	RMSEA
One-factor	343	50.20	14	3.59	0.97	0.955	0.97	0.087

Note: CFI= comparative fit index; NNFI=non-normed fit index; IFI= incremental fit index; RMSEA= root mean-square error of approximation

Table 3.27

Management Support CFA

Ind.	Loading
MS1	0.57
MS2	0.79
MS3	0.82
MS4	0.58
MS7	0.60
MS8	0.76
MS9	0.54
Composite Reliability	0.85
AVE	0.46

3.3.6. Performance

To fulfill the multidimensional nature of the concept, in empirical studies, integrating different dimensions of performance has been suggested in the literature (Wiklund & Shepherd, 2005). Thus, to capture different aspects of performance, both measures of profitability and growth, together with non-financial performance have been analyzed in this research.

Other than its multi dimensionality another major issue has been about how to measure performance. Both types of objective and subjective measures have been reported to produce biases impacting the relationships investigated (Rauch et al., 2004). While perceptual measures often fail to capture financial aspects of business performance and may be subject to common method variance, objective measures may be affected by factors beyond the control of business managers and impracticable in many cases (Lumpkin & Dess, 2001). To overcome both potential biases (Weinzimmer, Nystrom, & Freeman, 1998), two different indicators of subjective and

objective measures, utilizing data both from primary and secondary sources have been planned to be utilized.

Subjective measures have been based upon the perceptions of the informants', measured through the techniques developed by Dess and Robinson (1984) and Gupta and Govindarajan (1984). The informants have been asked to indicate on a five-point Likert-type scale, ranging from "not at all satisfactory" to "outstanding", to rate the performance of their businesses over the last three years, with three items at least for each performance dimension. The informants have also been asked to evaluate "their firm's performance over the last three years relative to their competitors for the same following performance dimension, with three items at least per dimension as well. Along with this, a second indicator, objective in this case, has been gathered through ISE and/or ICI.

In terms of growth, a consensus has been reached among researchers that sales growth was the best measure (Hoy, McDougall, & D'Souza, 1992, as referred in Wiklund, 1999). Weinzimmer et al. (1998) have shown that, the majority of the studies (83%) identified in the literature have utilized sales as a measure of growth while nearly three-quarters of these have used sales growth as the only measure. Furthermore, entrepreneurs consider sales growth as the most common performance indicator as well (Barkham, Gudgin, Hart, & Hanvey, 1996). Sales data have been important both to manufacturing and service organizations in the for-profit sector. It reflects both short- and long-term changes in the firm, and is easily obtainable. Moreover, the use of sales data might have been more appropriate than the other growth concepts (employee and asset) as a firm can realize growth in sales dollars without achieving any significant change in employees or assets. Besides, sales data has been more appropriate in researches studying organizations from different industries. Therefore, fluctuations in sales has been a more neutral measure of growth, compared to asset or employee growth, with respect to inter-industry studies.

Thus in this study, in terms of objective measures, growth measure was operationalized as the firm's average growth in sales revenue between the 2003 and 2005 period, and profitability has been measured through data gathered from ICI and ISE. Due to differing growth rates of the industries represented in the sample, each firm's sales growth rate was controlled for its industry. In terms of subjective measures, the researcher had the chance to integrate different dimensions. Informants were asked to estimate three indicators for growth: in total sales, in market share, and in

employment, and three indicators for profitability: long term profitability, operating profit, and profit over capital. Moreover, for assessing non-financial performance, four indicators questioning the image and impact on society, customer satisfaction, supplier satisfaction, and employee satisfaction have been utilized.

However the results of preliminary analysis revealed that objective data did not turn out to be reliable and thus, was dropped from the study. Unreliability may have been due to already acknowledged rationales in the literature: 1) varying accounting conventions or even managerial manipulations for a variety of reasons like avoidance of corporate or personal taxes etc. (Dess & Robinson, 1984; Powell & Dent-Micallef, 1997; Sapienza, Smith, & Gannon, 1988); and 2) the distinctive structures of industries firms, are operating. The sample was diverse in terms of industries (see Table 4.2 and 4.3) and though some kind of normalization (industry average) was conducted, certainly it was not preventive enough. As argued by Spanos and Lioukas (2001:916) "industry is a rather vague concept, the boundaries of which are usually ill defined. Hence the validity of such comparison may also be problematic." Indeed it has turned out that, in the case of Turkish economy where about a third of the economy operates unregistered[8] and firms have been slave of very high inflation for decades, as has been argued by some scholars in the field (Alpkan, 2005), perceptual measures are a more reliable way of assessment for firm performance.

In support of this, Chandler and Hanks (1993) have shown that owner / CEO assessments of business activity (such as earnings, business volume and sales growth) were highly correlated with archival data. A very high correlation and convergence between perceptual / subjective and actual / objective evaluations have been observed, especially when the anonymity and scientific approach to data collection is guaranteed. Particularly, in cases where accurate objective measures are not available, and the alternative is to remove the consideration of performance from the research design, utilization of perceptual measures has been advised (Dess & Robinson, 1984; Heneman, 1974).

Consequently, provided that informants are acknowledged that their ratings will be solely used for research purposes and remain confidential, previous literature (Covin

[8] In addition to a formal economy, Turkey used to have a large informal one that reached 45% of the average GNP for the period of 1968–2001 (Ilgın, 2002). Though in recent years this ratio has decreased, a shadow economy still has been estimated to reach 30%, during the 1990-2003 period (Schneider, 2005).

& Slevin, 1988; 1991; Dess & Robinson, 1984; Gupta & Govindarajan, 1984; 1986; Heneman, 1974; Narver & Slater, 1990; Venkatraman & Ramanujam, 1986, 1987) has shown that, the subjective measures of performance can accurately reflect objective measures, and enhance validity and reliability. Therefore, objectives measures are not necessarily always superior. Particularly in the case of this thesis' sample subjective measures seemed definitely superior to "objective" data.

Thus the subjective constructs formed, have been subjected to reliability and validity analysis as all other measures. After reliability analysis where the alpha coefficients for each factor can be found in Table 3.28, a construct validity analysis, where items have been checked if they capture the underlying construct purportedly measured has been conducted. In the Kendall's tau_b correlation analysis it has been observed that all items of each factor correlated significantly with related total score of that factor.

Table 3.28

Performance factors EFA: Three-factor solution

	Non-Financial	Profitability	Growth
Alpha	0.84	0.91	0.74
NF2	0.79		
NF3	0.74		
NF4	0.71		
NF1	0.67		
FP2		0.87	
FP3		0.77	
FP1		0.76	
FG2			0.87
FG1			0.66
FG4			0.43
Eigenvalue	2.35	2.26	1.75
Variance Explained	23.49	22.63	17.49
Cumulative Var. Expl.	23.49	46.12	**63.61**

In the EFA analysis, whose results are summarized in Table 3.28, the correlation matrix has been checked. Several sizeable correlations were found in excess of 0.3 and no correlation has been above 0.9 (max. r = 0.79), positing appropriateness for factor analysis. Moreover, the determinant of input matrix was greater (0.005) than the necessary value of 0.00001, indicating that multicollinearity was not a problem.

Bartlett's test of sphericity was significant ($p<0.001$) and the KMO measure was considerably greater (0.86) than 0.6. In the anti image correlation matrix, diagonal items illustrating MSA were all above (0.81 – 0.90) 0.5. In the reproduced correlation matrix, the percentage of residuals greater than 0.05, was well below (0%) the accepted level of 50%. Scree plot has been analyzed and in parallel with theory, three factors have been extracted as expected.

In the CFA analysis, whose results are summarized in Table 3.29, the three-factor model has been confirmed with all above-acceptable-level fit indices. Moreover, the three-factor model has been compared to one-factor model where all items loaded on one factor. Table 3.29 demonstrates that the improvement in the fit statistics of the three-factor model over the one-factor model is highly significant ($\Delta\chi^2$ (3, N = 299) = 480.56, $p < 0.001$). Furthermore, the goodness-of-fit indices revealed a poor fit for the single factor model, where the indications are opposite for the three-factor model.

Table 3.29

Performance factors CFA: Fit indices - Comparison of models

	n	χ^2	df	χ^2/df	CFI	NNFI	IFI	RMSEA
One-factor	299	521.00	35	14.89	0.76	0.69	0.76	0.22
Three-factor	299	40.44	32	1.26	1.00	0.99	1.00	0.03

Note: CFI= comparative fit index; NNFI=non-normed fit index; IFI= incremental fit index; RMSEA= root mean-square error of approximation

Table 3.30

Performance factors CFA: Loadings

Ind.	Loading	Ind.	Loading	Ind.	Loading
FP1	0.85	**FG1**	0.84	**NF1**	0.73
FP2	0.92	**FG2**	0.80	**NF2**	0.83
FP3	0.86	**FG4**	0.51	**NF3**	0.76
				NF4	0.73

The CFA results related to construct validity tests are summarized in Table 3.30 and 3.31. All items loaded significantly on their respective constructs (with the lowest t value being 7.75), providing support for the convergent validity of measurement items. All error variances were positive. All composite reliability and AVE figures shown in Table 3.31 were above the acceptable level. These provided further support for

convergent validity. Finally, the discriminant validity was assured as the average variance extracted for each construct was greater than its squared correlations with other constructs as can be observed in Table 3.31.

Table 3.31

Performance factors CFA: Reliability and validity figures

	P	NF	G
Composite Reliability	**0.91**	**0.85**	**0.77**
Profitability (PP)	**0.77**	0.19	0.34
Non-Financial Performance (NFP)	0.44	**0.58**	0.17
Growth (GP)	0.58	0.41	**0.53**

Note: Diagonals are the AVE's, while below diagonals are correlations, and above diagonals are shared variances.

3.3.7. Control Variables

Consistent with previous theory and literature, to mitigate any potential spurious interpretations of the findings, three variables were treated as control variables. For each control variable, there has been some theoretical basis for expecting the variable to have a systematic relationship with the independent variable, the dependent variable, or both.

Company size, as a common control variable, was employed as a correlate in this study as well. In some studies, a negative association between company size and innovation has been expected, as smaller companies have been seen more likely to innovate than larger firms (Drucker, 1985; Herbig, 1994). However, in some other research (Collins & Smith, 2006), bigger firms with the greater resources they own, have been seen more likely to innovate. Furthermore, a positive association between company size and venturing has been anticipated. Given these divergent scenarios, the effect of company size, measured by the number of the firm's full-time employees, which was log-transformed for normality, was controlled (Barringer & Bluedorn, 1999; Wiklund & Shepherd 2005; Zahra et al., 1999). Data was gathered through ISE reports and/or corporate websites.

As with size, it was not uncommon to treat firm age as a contingency variable. Company age was a common control variable in rigorous studies as younger firms were

considered to be more innovative than older companies as they were often established to exploit specific technological advances by introducing radically new products (Hitt, Nixon, Hoskisson, & Kochhar, 1999). Older companies, however, were more likely to engage in venturing to renew their operations. Industrial-organization economists have found firm size and age to be significant predictors (both positive and negative) of organizational growth (Weinzimmer et al., 1998). Given these potentially contradictory effects on CE and performance, measured by the number of years a firm has been in existence (Wiklund & Shepherd, 2005; Zahra et al., 1999), firm age was controlled for in the analysis as well. Data was gathered through ISE reports and/or corporate websites.

Industry type was the final control variable utilized. Companies in different industries face different competitive challenges, causing them to use various approaches (Zahra, 1991). The payoff might vary also by industry type. The number of companies in non-manufacturing industries was relatively low to further divide them into different groups. Thus, to control for industry type, companies were assigned to one of two groups (0: service; 1: manufacturing) based on the industry they were operating according to NACE standards.

According to the review by Zahra et al. (1999), CE researchers have commonly controlled for variables of company age (6%), size (14%), and industry type (5%). While different ways have been utilized to perform these controls, it was clear that these variables potentially were considered to confound results.

3.4. Simultaneous Analysis of the Measures - Measurement Model

After individual analysis of the constructs, before continuing for further tests, a measurement model analysis has been performed (Anderson & Gerbing, 1988). In other words, a CFA where all the first order constructs of the model freely correlate to each other has been utilized. Moreover, a 2nd order factor analysis has been performed for the only composite measure of the study. Thus, all the constructs have been assessed for convergent validity, average variance extracted, and the discriminant validity (Fornell & Larcker, 1981), simultaneously and once more.

3.4.1. Second Order CFA

As the only composite measure of the study, a 2nd order factor analysis (as in measurement model in the case of first order factors) has been conducted for EO. In the second-order model, while the more abstract construct of EO has not been directly measured, the dimensions of EO have been measured through specific manifest items. These more specific dimensions are viewed as lower (first) order factors that are presumed to form and cause EO. For n= 318, the fit indices for the 2nd order CFA included a χ^2/df ratio of 1.38, a CFI of 0.98, a NNFI of 0.98, an IFI of 0.98, and RMSEA of 0.04, indicating a very good fit.

Table 3.32

EO second order CFA: Loadings

	Ind.	Loading	Ind.	Loading	Ind.	Loading	Ind.	Loading	Ind.	Loading
	P1	0.60	**CA1**	0.47	**RT1**	0.67	**I1**	0.61	**A1**	0.69
	P2	0.77	**CA2**	0.88	**RT2**	0.76	**I2**	0.68	**A2**	0.81
	P3	0.85	**CA3**	0.71	**RT3**	0.67	**I3**	0.74	**A3**	0.63
2nd Order Loadings	**P**	0.59	**CA**	0.36	**RT**	0.53	**I**	0.97	**A**	0.24

Table 3.33

EO second order CFA: Reliability and validity figures

	P	CA	I	RT	A
Composite Reliability	**0.79**	**0.74**	**0.72**	**0.75**	**0.76**
Proactiveness (P)	**0.56**	0.01	0.22	0.05	0.01
Competitive Aggressiveness (CA)	0.12	**0.50**	0.07	0.03	0.02
Innovativeness (I)	0.46	0.26	**0.46**	0.12	0.02
Risk Taking (RT)	0.23	0.18	0.35	**0.50**	0.05
Autonomy (A)	0.08	0.15	0.15	0.23	**0.51**

Note: Diagonals are the AVE's, while below diagonals are correlations, and above diagonals are shared variances.

The 2nd order CFA results related to construct validity tests are summarized in Table 3.32 and 3.33. All the first order and second order loadings were significant (with the lowest t value being 2.87) on their respective constructs; and all error variances, positive. All composite reliability figures shown in Table 3.33 were above the acceptable level. All AVE's other than innovativeness were above accepted level and the AVE for innovativeness was only marginally below the acceptable level. These

provided further support for convergent validity. Finally, the discriminant validity was assured as the average variance extracted for each construct was greater than its squared correlations with other constructs as can be observed in Table 3.33. Even AVE result for innovativeness dimension was somewhat disappointing, considering all the other analysis results, that alone was not significant enough to cause concern. Thus, it can be claimed that all the factors of EO met the validity and reliability criteria satisfactorily, confirming that indicators were tapping into their corresponding construct. Accordingly, the composite measure of EO was developed by averaging the all respective items.

3.4.2. Measurement Model Analysis

The fit indices of the measurement model analysis, where all 13 factors of the proposed model other than EO dimensions were tested simultaneously while freely correlating to each other, have been summarized in Table 3.1. The measurement model has been confirmed with all above-acceptable-level fit indices. Moreover, it has been compared to one-factor model where all items loaded on one factor. The improvement in the fit statistics of the three-factor model over the one-factor model is highly significant ($\Delta\chi^2$ (78, N = 273) = 5273.08, $p < 0.001$). Furthermore, the goodness-of-fit indices indicated a poor fit for the single factor model, where the indications are exactly opposite for the two-factor model indicating a very good fit.

The CFA results related to construct validity tests are summarized in Table 3.34. All items loaded significantly on their respective constructs (with the lowest t value being 7.26), and all error variances were positive providing support for the convergent validity of measurement items. As further support, all composite reliability figures were above the acceptable level. Whilst the AVE for five out of 13 variables were marginally lower than the acceptable level, it must be noted that the variance extracted is only a complimentary measure only with a purely suggested value. Finally, the discriminant validity was assured as the average variance extracted for each construct was greater than its squared correlations with other constructs as can be observed in Table 3.34. Anyhow, considering all the analysis results, it can be claimed that all the constructs met the validity and reliability criteria satisfactorily. Accordingly, it would be reliable and safe to further extend the analysis using these constructs.

Table 3.34

Results of measurement model CFA

	# of items	Mean	SD	Alpha	CR	H	DY	T	IC	PD	TL	MS	CEI	CESR	CEV	PP	GP	NFP
Hostility (H)	3	5.11	1.10	0.71	0.72	**0.47**	0.26	0.06	0.01	0.01	0.00	0.01	0.01	0.00	0.00	0.02	0.02	0.01
Dynamism (DY)	3	4.20	1.24	0.73	0.70	0,51***	**0.44**	0.10	0.01	0.03	0.00	0.03	0.01	0.01	0.00	0.01	0.00	0.00
Technological Complexity (T)	3	4.61	1.36	0.76	0.78	0,25***	0,32***	**0.54**	0.03	0.05	0.03	0.09	0.06	0.07	0.00	0.00	0.00	0.01
Collectivism (IC)	7	3.51	0.74	0.91	0.91	0.08	0,10†	0,18***	**0.60**	0.24	0.13	0.32	0.05	0.16	0.00	0.02	0.01	0.13
Power Distance (PD)	8	2.72	0.73	0.86	0.87	-0,10†	-0,16**	-0,22***	-0,49***	**0.46**	0.08	0.27	0.08	0.11	0.00	0.02	0.01	0.09
Looseness (TL)	4	2.89	1.16	0.72	0.73	-0.06	-0.07	-0,18***	-0,37***	0,29***	**0.41**	0.17	0.07	0.06	0.02	0.03	0.01	0.15
Management Support (MS)	7	3.24	0.73	0.85	0.86	0.09	0,16**	0,31***	0,57***	-0,51***	-0,41***	**0.78**	0.17	0.29	0.00	0.03	0.03	0.17
CE Inoovativeness (CEI)	6	3.14	0.91	0.91	0.91	-0,11*	0,11*	0,24***	0,23***	-0,29***	-0,27***	0,41***	**0.63**	0.31	0.02	0.10	0.13	0.16
CE Strategic Renewal (CESR)	5	3.11	0.85	0.80	0.79	-0.02	0.08	0,27***	0,39***	-0,33***	-0,25***	0,54***	0,55***	**0.44**	0.07	0.02	0.08	0.08
CE Venturing (CEV)	4	2.38	1.07	0.83	0.82	-0.04	-0.05	0.00	-0.06	0.02	0,14**	0.06	0,14**	0,26***	**0.54**	0.00	0.02	0.00
Profit (PP)	3	3.45	0.92	0.91	0.91	-0,15**	-0.08	-0.07	0,14*	-0,15**	-0,17**	0,16**	0,32***	0,15**	0.01	**0.78**	0.34	0.19
Growth (GP)	3	3.47	0.80	0.74	0.77	-0,13*	-0.03	0.01	0,10†	-0,12*	-0.07	0,18***	0,35***	0,28***	0,14*	0,58***	**0.53**	0.17
Non-Financial Performance (NFP)	4	3.75	0.75	0.84	0.85	-0,09†	0.01	0,12*	0,36***	-0,30***	-0,39***	0,42***	0,39***	0,28***	-0.02	0,44***	0,41***	**0.59**

Note: i. Diagonals are the AVE's, while below diagonals are correlations, and above diagonals are shared variances.
ii. The response scales for hostility, dynamism, technological complexity, and looseness range from 1 to 7, while the range is from 1 to 5 for all other scales.
iii. *** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$; † $p < 0.10$
iv. The sample size varies from N = 309 to 347 after pairwise deletion.

4.
DATA ANALYSIS AND RESULTS

Consistent with the methods described in Chapter 3, a research investigation was conducted to test hypotheses developed from the conceptual framework detailed in Chapter 2. The purpose of this chapter is to report the results of this investigation. Some demographics related to responding firms, the results of hypothesis testing, and path analysis are presented.

4.1. Descriptives and Demographics

Descriptive statistics involving data frequencies, means, and standard deviations have been performed for all the data. Means, standard deviations, and correlations for each of the measures are displayed in Table 4.1. Given that no inter-factor correlation is above the recommended level of 0.80 (Tabachnick & Fidell, 1996), multicollinearity and hence, problems created by a lack of discriminant validity have not likely biased the data.

The 347 firms represented 39 different, 2-digit NACE codes in terms of the industries in which they operate. Distribution of the respondent firms according to their industries is displayed in Tables 4.2 and 4.3. The firms were distributed into a wide variety of industries and 18 of the firms were state owned. The average sales revenue (year 2005), age, and size of the firms in the sample were 322.89 million TL (SD=958.72; median= 121.11 million TL), 34.70 years (SD=18.71; median= 33 years) and 1205.12 employees (SD=2681.85; median= 520 employees), respectively. Related demographics are displayed in Tables 4.4 – 4.7.

Table 4.1

Descriptive statistics and intercorrelations of variables

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1 Age	1.00																
2 Number of Employees (log)	0.31***	1.00															
3 Hostility	0.03	0.07	1.00														
4 Dynamism	0.03	0.08	0.51***	1.00													
5 Technological Complexity	0.03	0.23***	0.25***	0.32***	1.00												
6 EO - Innovativeness	-0.01	0.25***	0.16**	0.24***	0.44***	1.00											
7 EO - Proactivity	0.02	0.09†	-0.01	0.08	0.18**	0.47***	1.00										
8 EO - Risk Taking	-0.04	0.11*	0.04	0.10†	0.13*	0.35***	0.23***	1.00									
9 EO - Competitive Aggressiveness	0.04	0.15**	0.20***	0.12*	0.07	0.27***	0.13*	0.18***	1.00								
10 EO - Autonomy	-0.07	0.04	0.09	0.13*	-0.03	0.14**	0.07	0.23***	0.14**	1.00							
11 Entrepreneurial Orientation (EO)	-0.01	0.21***	0.15**	0.22***	0.28***	0.76***	0.66***	0.66***	0.56***	0.42***	1.00						
12 Collectivism	-0.07	0.06	0.08	0.10†	0.18***	0.20***	0.16**	0.06	-0.01	0.11*	0.17***	1.00					
13 Power Distance	0.08	-0.08	-0.10†	-0.16**	-0.22***	-0.26***	-0.25***	-0.10†	-0.02	-0.14*	-0.26***	-0.49***	1.00				
14 Looseness	-0.03	-0.05	-0.06	-0.07	-0.18***	-0.14**	-0.26***	0.04	0.05	0.13*	-0.07	-0.37***	0.29***	1.00			
15 CE - Innovativeness	-0.03	0.14**	-0.11*	0.11*	0.24***	0.53***	0.53***	0.26***	0.13*	0.14*	0.54***	0.23***	-0.29***	-0.27***	1.00		
16 CE - Venturing	-0.12*	0.05	-0.04	-0.05	0.00	0.11*	-0.03	0.11*	0.10†	0.10†	0.12*	-0.06	0.02	0.14	0.14**	1.00	
17 CE - Strategic Renewal	-0.06	0.24***	-0.02	0.08	0.27***	0.40***	0.25***	0.21***	0.23***	0.13*	0.41***	0.39***	-0.33***	-0.25***	0.55***	0.26***	1.00
18 Management Support	-0.04	0.12*	0.09	0.16**	0.31***	0.35***	0.29***	0.14**	0.05	0.23***	0.35***	0.57***	-0.51***	-0.41***	0.41***	0.06	0.54***
19 Profit	0.04	0.09	-0.15**	-0.08	-0.07	0.10†	0.23***	0.11†	0.03	0.04	0.18***	0.14*	-0.15**	-0.17**	0.32***	0.01	0.15**
20 Non-Financial Performance	-0.04	-0.02	-0.09†	0.01	0.12*	0.24***	0.29***	0.13*	-0.10†	0.07	0.22***	0.36***	-0.30***	-0.39***	0.39***	-0.02	0.28***
21 Growth	-0.11	0.11†	-0.13*	-0.03	0.01	0.21***	0.18**	0.15**	0.04	0.03	0.22***	0.10†	-0.12*	-0.07	0.35***	0.14*	0.28***
Mean	34.70	2.72	5.11	4.20	4.61	4.59	4.89	3.75	3.87	3.11	4.04	3.51	2.72	2.89	3.14	2.38	3.11
Standart Deviation	18.71	0.53	1.10	1.24	1.36	1.29	1.33	1.26	1.18	0.82	0.74	0.74	0.73	1.16	0.91	1.07	0.85

Note: *i.* The response scales for hostility, dynamism, technological complexity, looseness, and all EO dimensions range from 1 to 7, while the range is from 1 to 5 for all other sca
ii. *** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$; † $p < 0.10$
iii. The sample size varies from N = 309 to 347 after pairwise deletion.

Table 4.2

Respondent firm's grouping based on industry

	Frequency	%	Cumulative %
Agriculture and Stockbreeding	11	3.2	3.2
Mining	11	3.2	6.4
Manufacturing	277	79.5	86.1
Utilities	8	2.3	88.4
Construction	4	1.2	89.6
Services	36	10.4	100.0
Total	**347**	**99.7**	**100.0**

Table 4.3

Distribution of manufacturing firms

	Frequency	%	Cumulative %
Food, beverages, and tobacco	50	18.1	18.1
Textiles	51	18.4	36.5
Furniture, wood, and other wood	10	3.6	40.1
Pulp, paper, publishing and printing	17	6.1	46.3
Chemicals and refined petroleum	36	13.0	59.3
Rubber and plastic	9	3.2	62.5
Non-metallic mineral	22	7.9	70.4
Basic metals	36	13.0	83.4
Metal products, machinery and equipment	14	5.1	88.5
Electrical machinery and apparatus	10	3.6	92.1
Motor vehicles and transport equipment	22	7.9	100.0
Total	**277**	**99.7**	**100.0**

Table 4.4

Respondent firm's grouping based on shareholder structure*

	Frequency	%	Cumulative %
State	18	5.2	5.2
Domestic (= 100%)	240	69.2	74.4
High Domestic Ratio (> 50%)	28	8.1	82.4
Equal Partnership (= 50%)	13	3.7	86.2
High Foreign Ratio (> 50%)	10	2.9	89.0
Foreign (= 100%)	38	11.0	100.0
Total	**347**	**99.7**	**100.0**

** Other than shares outstanding in ISE*

Table 4.5

Respondent firm's grouping based on location

	Frequency	%	Cumulative %
Other	175	50.4	50.4
İstanbul - İzmit	172	49.6	100.0
Total	**347**	**100.0**	**100.0**

Table 4.6

Respondent firms' grouping based on number of employees

	Frequency	%	Cumulative %
1 - 49	11	3.2	3.2
50 - 249	16	4.6	7.8
100 - 249	48	13.5	21.4
250 - 499	90	25.9	47.4
500 - 999	88	25.4	72.8
1000 +	94	27.1	100.0
Total	**347**	**99.7**	**100.0**

Table 4.7

Respondent firm's grouping based on three year average annual turnovers

	Frequency	%	Cumulative %
Below 50 million TL	42	12.3	14.5
50 - 99 million TL	113	33.0	47.5
100 - 149 million TL	66	19.3	66.8
150 - 249 million TL	47	13.7	80.6
250 - 1000 million TL	59	17.3	97.8
Over 1,000 million TL	15	4.4	102.2
Total	**342**	**99.7**	**100.0**

4.2. Hypothesis Testing

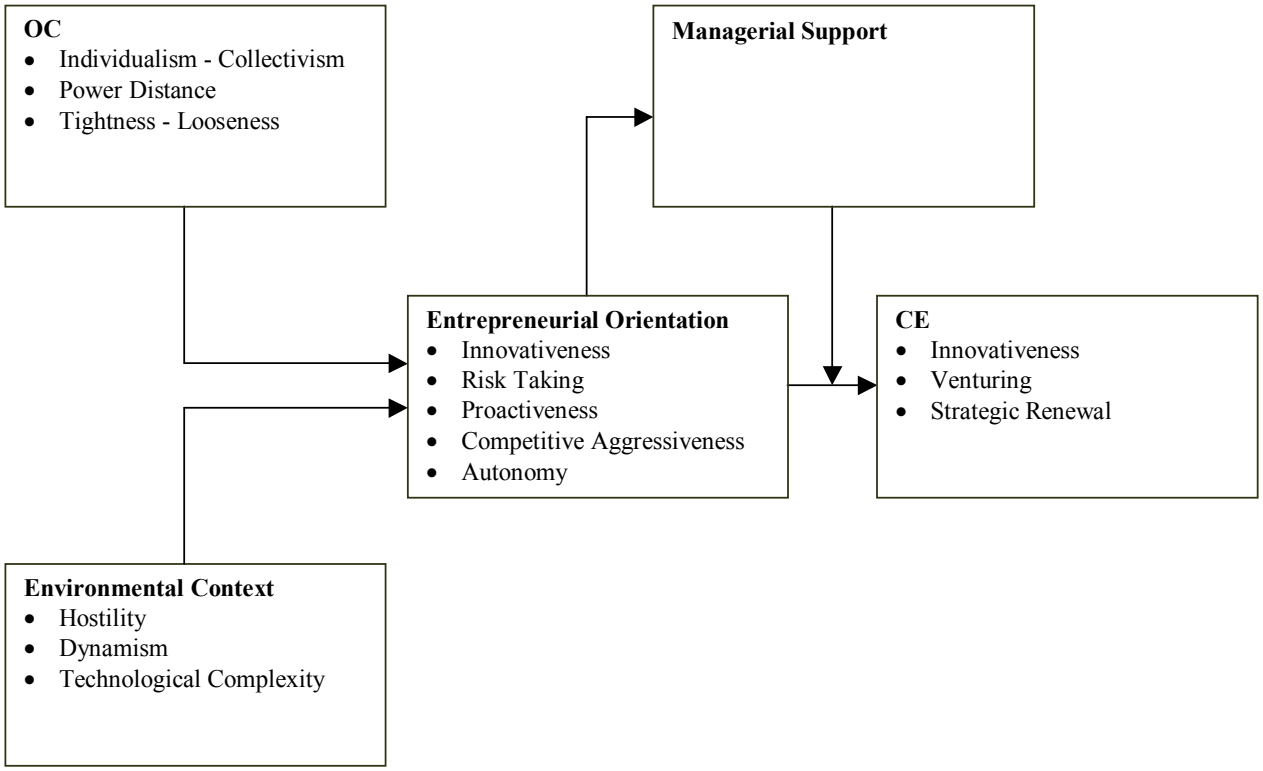
The model and hypothesized relationships in this study were tested using correlational analysis. In the first step of the analysis, the whole model proposed, is decomposed into two sub-models as can be depicted in the Figure 4.1 and 4.2. Hierarchical regression analysis was conducted for testing the hypotheses related to

these two sub-models. As typical of hierarchical regression analysis, the variables were entered into the regression model in an order determined in light of past research and expectations. Thus, the change in R^2 that occurred when the new term was added to the model could be point of reference for evaluation (Cohen, Cohen, West, & Aiken, 2003).

The dependent variable of the Sub-Model - 1 was CE, while it was performance for the Sub-Model - 2. In all the analyses, hypotheses have been tested for all three types of CE and three different dimensions of performance.

Figure 4.1

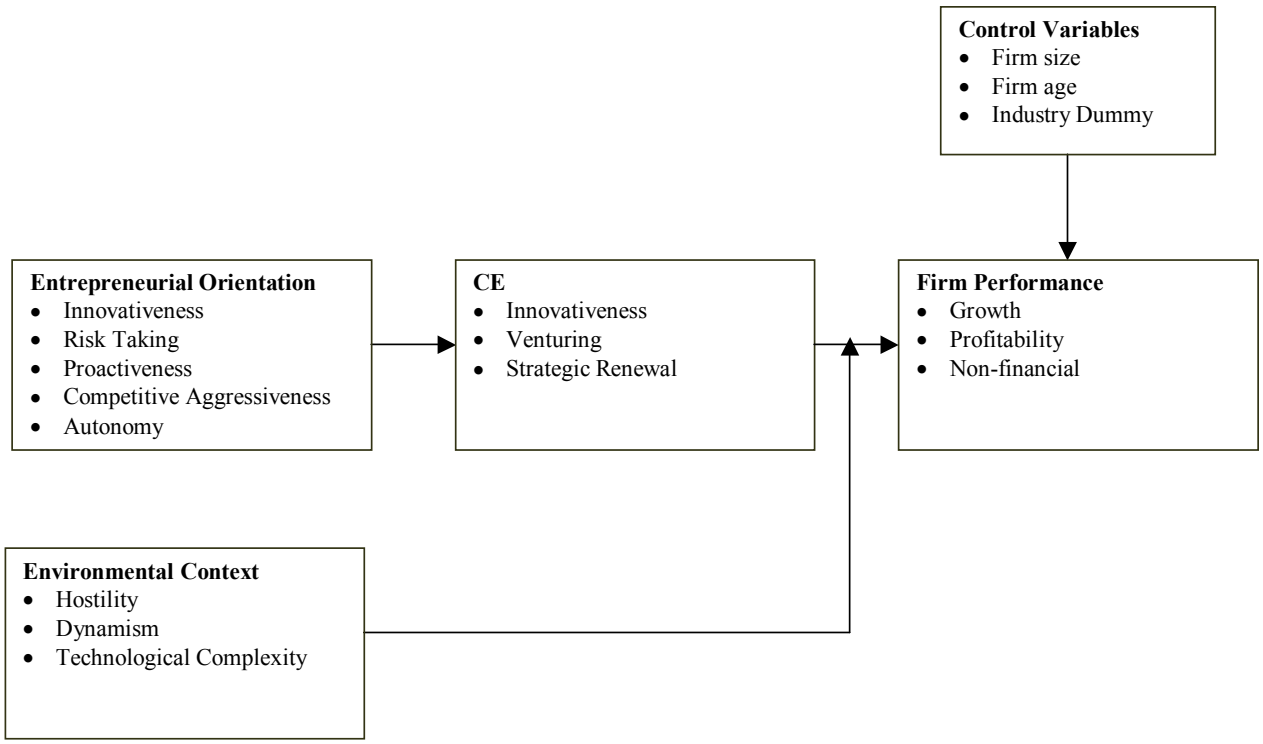
Sub-Model - 1



Following this first step, the slightly revised version of the whole model, in light of the initial regression analysis, was tested for confirmatory purposes through path analysis. Path analysis, that is an extension of the regression model, gave a chance to test the hypothesized relationships simultaneously in a causal path model. All the analyses were conducted at the firm level and thus the effective sample size was a maximum of 347. For the hierarchical regression analysis, the widely used and recognized SPSS (version 13 for Windows) was the software of choice, while EQS (version 6.1 for Windows) has been utilized for path analysis. Following you can find the results of each step and analysis in order of execution and in details.

Figure 4.2

Sub-Model - 2



4.2.1 Assessment of Assumptions and Other Tests

In the following two sections, the guidelines followed in conducting the analyses are presented.

First of all, the correlation matrix has been checked to see if there were correlations above 0.90 between predictors. Subsequently, the VIF values were controlled. If the largest VIF was greater than 10, and the average VIF was substantially greater than 1, then there was cause for concern. The tolerance values were checked as well. While tolerance values below 0.2 indicated a potential problem, tolerance values below 0.1 indicated a serious one. Following these, the Durbin-Watson statistics that depend upon the number of predictors in the model and, the number of observations were checked. As a very conservative rule of thumb, values less than 1 or greater than 3 were cause for concern. For checking the assumptions of homoscedasticity and the assumption of random errors, plots where *ZRESID (the standardized residuals, or errors) formed the Y-axis, against *ZPRED (the standardized predicted values of the dependent variable based on the model), and *SRESID (the

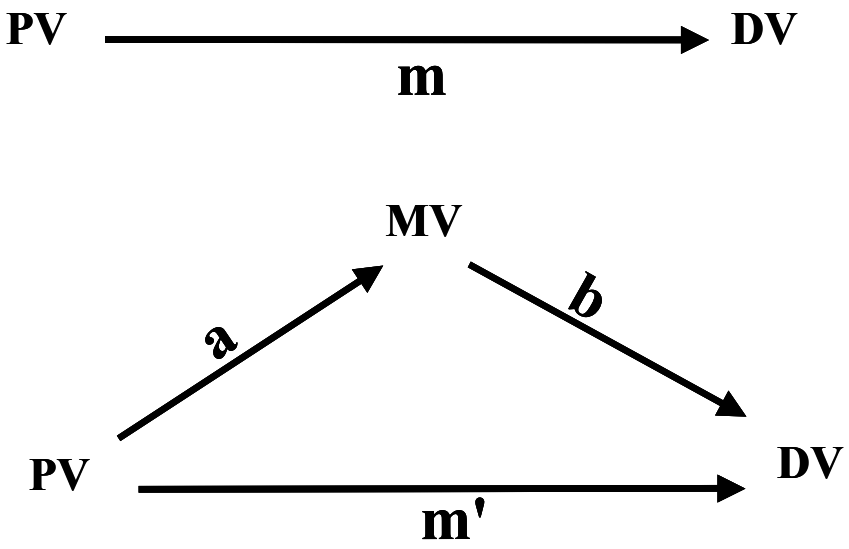
studentized residual) formed the y-axis against *ZPRED were analyzed. The histogram of standardized residuals and the normal probability plots were also checked for normality assumptions.

4.2.2 Sub-Model - 1 Testing

As conceptualized in Chapter 2 and depicted in Figure 4.1, the mediation role of EO between internal and external contextual variables and CE, forms the substance of the first model.

Figure 4.3

Mediation Diagram



As one of the main perspectives of fit, mediation has long been utilized in the social sciences (Baron & Kenny, 1986). The central idea in this fit perspective is that there is a significant intervening mechanism between an antecedent variable and the consequent variable. For mediation to be evident, all the following conditions should hold: the predictor (independent) variable influences the dependent variable (m in Figure 4.3); the predictor influences the mediator (a in Figure 4.3); and the mediator influences the dependent variable (b in Figure 4.3). Moreover the influence of the predictor variable on dependent variable is checked while controlling for the mediator (m' in Figure 4.3). The influence either diminishes signaling partial mediation or completely disappears signaling full mediation. Thus, if a third variable (mediator) then

mediates the association between predictor and dependent, after the effects of the mediator are accounted for, "m" either will be equal to zero or will be significantly smaller than originally.

To explore the mediating role, the three-step approach recommended by Baron and Kenny (1986) was followed in this study as well. In the first step, the mediator was regressed on the independent variables while the dependent variable was regressed on the independent variables in the second step. The dependent variable was regressed on both the independents and the mediator simultaneously in the final step.

Hypothesis 1, suggested a positive association between EO and all forms of CE, forming the "b" path of the mediation analysis. Analysis results (Table 4.8), indicate support for the whole hypothesis. EO is positively associated with all the forms of CE, especially innovation. EO accounts for the 29% of the variation in corporate innovation. In venturing though, both the coefficient and the level of significance drop substantially, but still remain significant at 0.05 level. This change may be due to the characteristics of the dimension itself, and low level of venturing activity realized in our sample (only about half of the firms have been in some kind of venturing activity) and in Turkey, in general. In the three objective questions asked at the very end of the questionnaire to validate venturing dimension, 138, 108, and 174 informants respectively signed "0" residing at the lowest extreme of the response scale, representing no activity. In other words, 40% of the firms in the sample did not establish any *independent and/or semi-independent business units* in the last three years, 31% of the firms in the sample did not *financially support* and/or *established new business units*, and 50% of the firms in the sample did not realize *any joint ventures and/or acquisitions in the last three years.* Supportively, the venturing dimension had the lowest mean of 2.38 (s.d.= 1.07) among all variables, out of five-point Likert-type scale, ranging from one to five and where two represented "disagree". Thus, most of the firms in the sample had not been in venturing activity in the last three years. Moreover, venturing activities, though initialized and created inside the organization, are mostly realized and executed outside the firm and do bear more risky outcomes than all other types of CE. It is a rather different facet of the phenomenon. This finding of decreasing strength and significance through innovation to strategic renewal to venturing, has parallel reflections that can be observed in all the further hypotheses developed. The issue will be thoroughly discussed in the conclusion part.

Table 4.8

Results of regression analysis: hypothesis 1

H1: *A firm's entrepreneurial orientation has a positive direct impact on all forms of CE.*

Dependent Variable	C. Innovativeness		C. Strategic Renewal		C. Venturing	
	β	ΔR^2	β	ΔR^2	β	ΔR^2
Independent Variable		0,292***		0,166***		0,015*
Entrepreneurial Orientation (EO)	0,540***		0,408***		0,123*	
df	340		341		340	
R^2	0.292		0.166		0.015	
Adjusted R^2	0.290		0.164		0.012	
F	140,192***		68,092***		5,253*	

*- *** p < 0.001; ** p < 0.01; * p < 0.05; † p < 0.10*
- The tolerance statistics are all well above 0,2 and the VIF values are all well below 10, average VIF=1,089.

Hypothesis 2 suggested a mediating role for EO, between internal and external contextual variables and all forms of CE. The testing of this mediation required significant positive association with these contextual variables and EO (path "a" as in Figure 4.3). Hypotheses 3 and 4 already suggested these positive associations. In step one all the internal contextual predictors, and in step two all the external contextual predictors were entered as a block into the regression analysis, as entering them together and as a block represented a more conservative and robust approach (Kohler & Mathieu, 1993). In both of the steps a significant and relatively large change in R^2 has been observed. As can be seen from Table 4.9, albeit all of the predictions are in the direction proposed, only low power distance in the organizational culture, increased perception of dynamism and technological complexity in the environment have demonstrated positive significance association with EO.

As far as the mediation hypothesis was concerned, given that first two conditions have been investigated with respect to hypotheses 1, 3, and 4, the following step was to investigate path m and then m' respectively, to reach a conclusion about full, partial, or no mediation. Table 4.10 displays the results of the analysis where all forms of CE were regressed on independent variables. Other than venturing, the models have demonstrated significant association in general. To decide about the strength of mediation, a final hierarchical regression analysis where all dependent variables (CE types in this case) have been regressed upon EO antecedents and while EO has been

controlled for. As the results summarized in Table 4.11 (m') are compared to results presented in Table 4.10 (m), the following can be claimed:

Table 4.9

Results of regression analysis: hypothesis 3 and 4

H3: *Increased i. hostility, ii. dynamism, and iii. technological complexity in the environment has a positive direct impact on EO.*
H4: *High level of i. individualism, ii. power distance, and iii. tightness has a negative direct impact on EO.*

Dependent Variable **Entrepreneurial Orientation**

	β	ΔR^2
Internal Independent Variables		0,070***
Collectivism (IC)	0.047	
High Power Distance (PD)	-0,183**	
Looseness (TL)	0.041	
External Independent Variables		0,067***
Hostility (H)	0.023	
Dynamism (D)	0,107†	
Technological Complexity (T)	0,202***	
df	337	
R^2	0.136	
Adjusted R^2	0.121	
F	8,866***	

		Unstandardized		Stand.		
		B	Std. Error	Beta	t	Sig.
Step1						
	IC	0.062	0.063	0.062	0.991	0.322
	PD	-0.236	0.062	-0.233	-3.834	**0.000**
	TL	0.010	0.036	0.015	0.270	0.787
Step2						
	IC	0.047	0.061	0.047	0.780	0.436
	PD	-0.185	0.060	-0.183	-3.066	**0.002**
	TL	0.026	0.035	0.041	0.739	0.461
	H	0.016	0.040	0.023	0.393	0.695
	D	0.064	0.037	0.107	1.761	**0.079**
	T	0.110	0.030	0.202	3.654	**0.000**

*- *** p < 0.001; ** p < 0.01; * p < 0.05; † p < 0.10*
- Regression weights shown are standardized coefficients obtained at the final step.
- The tolerance statistics are all well above 0,2 and the VIF values are all well below 10, average VIF=1,089.

In the case of corporate innovation, EO fully mediated the relationship between PD, dynamism, technological complexity and CEI. PD, dynamism, and technological complexity have not continued to influence CE after EO was taken into account. In other words, both the size of the coefficient and the corresponding t-statistics have decreased from step 1 to step 2 in all the three cases. Specifically, the decrease in coefficient has been from 0.14 to 0.08; 0.18 to 0.08; and -0.17 to -0.08 while the corresponding t-statistics has decreased from 2.32 to 1.64; 3.27 to 1.59; and 2.97 to 1.6 in D, T, and PD respectively.

In the case of corporate strategic renewal, EO fully mediated the relationship between PD and CESR, as PD did not continue to influence CE after the influence of EO was taken into account. Specifically the size of the size of the coefficient decreased from -0.14 to -0.09, and the corresponding t-statistics have decreased from 2.56 to 1.60. In the case of technological complexity, though the coefficient and corresponding t-statistics have dropped, mediation was partial. Though to a lesser degree, T continued

to influence CE significantly, even after the influence of EO was taken into account. Finally, in the case of corporate venturing, no mediation was observed, as the initial requirements (path m) were also not fulfilled.

Table 4.10

Results of regression analysis: hypothesis 2(m)

H2(m): *Increased i. hostility, ii. dynamism, and iii. technological complexity and high level of i. individualism, ii. power distance, and iii. tightness have a positive association with all forms of CE.*

Dependent Variable	**C. Innovativeness**		**C. Strategic Renewal**		**C. Venturing**	
	β	**ΔR^2**	**β**	**ΔR^2**	**β**	**ΔR^2**
Independent Variables		0,191***		0,230***		0.024
Hostility (H)	-0,252***		-0,119*		-0,014	
Dynamism (D)	0,137*		0.026		-0,050	
Technological Complexity (T)	0,175**		0,197***		0.038	
Collectivism (IC)	0.059		0,266***		-0,020	
High Power Distance (PD)	-0,172**		-0,144*		-0,036	
Looseness (TL)	-0,168**		-0,080		0,148*	
df	334		335		334	
R^2	0.191		0.230		0.024	
Adjusted R^2	0.176		0.216		0.007	
F	13,124***		16,691***		1.394	

*- *** p < 0.001; ** p < 0.01; * p < 0.05; † p < 0.10*
- The tolerance statistics are all well above 0,2 and the VIF values are all well below 10, average VIF=1,336

The remaining part of the first model contained hypothesized relationships of managerial support with EO and CE, and a moderating mechanism. Hypothesis 5, suggested positive association between EO and managerial support mechanisms. Results displayed in Table 4.12, indicate strong support for the hypothesis. Thus, EO is positively and significantly associated with managerial support mechanisms.

Hypothesis 6 suggested that managerial support mechanisms moderated the EO-CE relationship. Researchers, following the general axiom that no strategy is universally superior irrespective of the environmental and organizational context, have popularized the moderation perspective in organizational research. Thus, fit as a moderation perspective has commonly been used to operationalize the contingency view (Venkatraman, 1989). Generally, it is hypothesized that either an outcome is jointly determined by the interaction of a predictor and a moderator, or the predictive ability of certain variables differs across different contextual conditions reflecting the

strength of moderation. Furthermore, contrary to some investigators' beliefs in rejection due to multicollinearity problems, moderated regression analysis is still a valid analytical method for testing fit as moderation in the case of first type of moderation, especially if the transformation techniques are used (Venkatraman, 1989)

Table 4.11

Results of regression analysis: Hypothesis 2(m')

H2(m'): *Entrepreneurial orientation serves as a mediating variable between internal and external contextual factors and all forms of CE.*

Dependent Variable	**C. Innovativeness**		**C. Strategic Renewal**		**C. Venturing**	
	β	**ΔR^2**	**β**	**ΔR^2**	**β**	**ΔR^2**
Independent Variables		0,191***		0,230***		0.024
Hostility (H)	-0,264***		-0,126*		-0,017	
Dynamism (D)	0.084		-0,008		-0,066	
Technological Complexity (T)	0.075		0,133**		0.007	
Collectivism (IC)	0.035		0,251***		-0,027	
High Power Distance (PD)	-0,081		-0,086		-0,008	
Looseness (TL)	-0,189***		-0,093†		0,142*	
Mediating Variable		0,215***		0,088***		0,020**
Entrepreneurial Orientation (EO)	0,499***		0,319***		0,151**	
df	333		334		333	
R^2	0.406		0.318		0.044	
Adjusted R^2	0.394		0.304		0.024	
F	32,517***		22,237***		2,198*	

*- *** p < 0.001; ** p < 0.01; * p < 0.05; † p < 0.10*
- Regression weights shown are standardized coefficients obtained at the final step.
- The tolerance statistics are all well above 0,2 and the VIF values are all well below 10, average VIF=1,089.

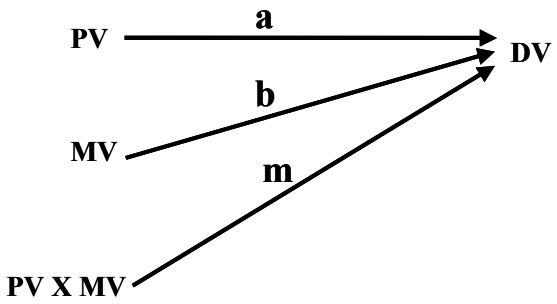
As one of the commonly used transformation techniques, Cohen et al. (2003) have advised centering the main effects around the mean before computing the interaction term to overcome a possible threat of multicollinearity. Thus, to test Hypothesis 6, a stepwise moderated hierarchical regression procedures outlined by Cohen et al. (2003), has been followed.

Moderated regression analysis allows for interaction effects to be directly examined. The statistical significance of interaction effects is tested by regressing the dependent variable on main variables: 1) the predictor variable (path a in Figure 4.4); 2) the hypothesized moderator variable (path b in Figure 4.4); and 3) the cross-product (interaction term) of these main variables centered (path c in Figure 4.4). If the addition of the interaction term significantly increases the power of the regression equation to

explain the variance in the dependent variable, then an interaction or contingency effect can be said to exist. Thus the moderation hypothesis is supported if the interaction term is significant. The possible significant effects of the predictor and the moderator with the dependent variable are not directly relevant for testing moderation hypothesis (Baron and Kenny, 1986).

Figure 4.4

Moderation Diagram



Thus, in the analysis of Hypothesis 6, all variables of interest were centered prior to hierarchical regression analyses (Cohen et al., 2003). In step 1 of the regression, predictor variable (EO in this case); moderating variable (management support in this case) in step 2; and finally in step 3, the interaction term has been entered. The changes in R^2 at each step and the standardized regression coefficients are presented in Table 4.13. As well as the moderation is concerned, no support has been found for either of the CE forms. However, rather than a moderation, a very significant direct effect of MS has been observed in all forms of CE except venturing and this has been observed even in the existence of EO as a control variable. In the case of strategic renewal, the change in R^2 has exceeded even that of EO. This finding has urged the researcher to test the direct effect of MS to CE in the path analysis.

The summary of all the hypothesis testing findings can be seen in Table 4.14. In terms of antecedents of EO, dynamism, technological complexity, and power distance have demonstrated significant association. EO's mediating role for these three antecedents, especially for power distance, has been demonstrated for dimensions other than venturing again. Though a strong positive association with EO and MS has been shown, the results has not confirmed a moderating role for MS. Instead, a direct effect of MS on CE dimensions has been observed.

Table 4.12

Results of regression analysis: hypothesis 5

H5: *Entrepreneurial orientation has a positive direct impact on the constitution of managerial support mechanisms.*

Dependent Variable	**Management Support**	
	β	**ΔR^2**
Independent Variable		0,120***
Entrepreneurial Orientation (EO)	0,347***	

	Unstandardized		Stand.		
	B	**Std. Error**	**Beta**	**t**	**Sig.**
EO	0.339	0.049	0.347	6.862	0.000

df	345
R^2	0.120
Adjusted R^2	0.118
F	47,089***

*- *** p < 0.001; ** p < 0.01; * p < 0.05; † p < 0.10*
- The tolerance statistics are all well above 0,2 and the VIF values are all well below 10, average VIF=1,089.

Table 4.13

Results of regression analysis: hypothesis 6

H6: *All forms fo CE is jointly determined by the interaction of EO and managerial support mechanisms.*

Dependent Variable	**C. Innovativeness**		**C. Strategic Renewal**		**C. Venturing**	
	β	**ΔR^2**	**β**	**ΔR^2**	**β**	**ΔR^2**
Independent Variable		0,292***		0,166***		0,015*
Entrepreneurial Orientation (EO)	0,452***		0,252***		0,117*	
Moderating Variable		0,057***		0,177***		0.000
Management Support (MS)	0,258***		0,452***		0.014	
Interaction Variable		0.000		0.001		0.001
MS X EO	0.022		0.025		-0,032	
df	338		339		338	
R^2	0.350		0.345		0.017	
Adjusted R^2	0.344		0.339		0.008	
F	60,569***		59,414***		1.895	

*- *** p < 0.001; ** p < 0.01; * p < 0.05; † p < 0.10*
- The tolerance statistics are all well above 0,2 and the VIF values are all well below 10, average VIF=1,089.
- Regression weights shown are standardized coefficients obtained at the final step.

Table 4.14

Summary of hypothesis testing findings – sub-model 1

H1a: EO is positively related to corporate innovation.	**S*** **
H1b: EO is positively related to corporate strategic renewal.	**S*** **
H1c: EO is positively related to corporate venturing.	**S***
H2ai: EO serves as a mediating variable between individualism and corporate innovation.	**NS**
H2aii: EO serves as a mediating variable between power distance and corporate innovation.	**S - Full**
H2aiii: EO serves as a mediating variable between tightness and innovation.	**NS**
H2aiv: EO serves as a mediating variable between hostility and corporate innovation.	**NS**
H2av: EO serves as a mediating variable between dynamism and corporate innovation.	**S - Full**
H2avi: EO serves as a mediating variable between technological complexity and corporate innovation.	**S - Full**
H2bi: EO serves as a mediating variable between individualism and corporate strategic renewal.	**NS**
H2bii: EO serves as a mediating variable between power distance and corporate strategic renewal.	**S - Full**
H2biii: EO serves as a mediating variable between tightness and corporate strategic renewal.	**NS**
H2biv: EO serves as a mediating variable between hostility and corporate strategic renewal.	**NS**
H2bv: EO serves as a mediating variable between dynamism and corporate strategic renewal.	**NS**
H2bvi: EO serves as a mediating variable between technological complexity and corporate strategic renewal.	**S - Partial**
H2ci: EO serves as a mediating variable between individualism and corporate venturing.	**NS**
H2cii: EO serves as a mediating variable between power distance and corporate venturing.	**NS**
H2ciii: EO serves as a mediating variable between tightness and corporate venturing.	**NS**
H2civ: EO serves as a mediating variable between hostility and corporate venturing.	**NS**
H2cv: EO serves as a mediating variable between dynamism and corporate venturing.	**NS**
H2cvi: EO serves as a mediating variable between technological complexity and corporate venturing.	**NS**

S: Support; **NS:** No support; ***: $p < 0.001$; **: $p < 0.01$; *: $p < 0.05$; †: $p < 0.10$

Table 4.14

Summary of hypothesis testing findings – sub-model 1

H3i: Increased hostility in the perception of environment is positively related to EO.	**NS**
H3ii: Increased dynamism in the perception of environment is positively related to EO.	**S†**
H3iii: Increased technological complexity in the perception of environment is positively related to EO.	**S*****
H4i: High level of individualism is negatively related to EO.	**NS**
H4ii: High level of power distance is negatively related to EO.	**S****
H4iii: High level of tightness is negatively related to EO.	**NS**
H5: EO is positively related to managerial support mechanisms.	**S*****
H6a: Corporate innovation is jointly determined by the interaction of EO and managerial support mechanisms.	**NS**
H6b: Corporate strategic renewal is jointly determined by the interaction of EO and managerial support mechanisms.	**NS**
H6c: Corporate venturing is jointly determined by the interaction of EO and managerial support mechanisms.	**NS**

S: Support; **NS:** No support; ***: $p < 0.001$; **: $p < 0.01$; *: $p < 0.05$; †: $p < 0.10$

4.2.3 Sub-Model – 2 Testing

In the case of second small model, as conceptualized in Chapter 2 and depicted in Figure 4.2, the mediation role of CE between EO and performance forms the substance of the model.

Table 4.15

Results of regression analysis: Hypothesis 7a

H7a: *Corporate innovativeness has a positive direct impact on performance.*

Dependent Variable	**Profitability**		**Growth**		**Non-Fin. Perf.**	
	β	**ΔR^2**	**β**	**ΔR^2**	**β**	**ΔR^2**
Control Variables		0.011		0,036**		0.012
Age	0.022		-0,144**		-0,040	
Size	0.030		0.093		-0,059	
Industry	0.058		0.014		0,099†	
Independent Variable		0,099***		0,111***		0,157***
Corporate Innovativeness (CEI)	0,319***		0,338***		0,402***	
df	307		305		306	
R^2	0.110		0.147		0.169	
Adjusted R^2	0.098		0.136		0.159	
F	9,484***		13,179***		15,600***	

*- *** p < 0.001; ** p < 0.01; * p < 0.05; † p < 0.10*
- The tolerance statistics are all well above 0,2 and the VIF values are all well below 10, average VIF=1,064
- Regression weights shown are standardized coefficients obtained at the final step.

In this model, Hypothesis 7 suggested, a positive association between all forms of CE and performance. Forming also the "b" path of the mediation analysis (see Figure 4.3), results can be seen in Tables 4.15 – 4.17, for each CE forms. In the case of corporate innovation, Hypothesis 7a, while controlling for the covariates, a strong support is found for all dependent variables from profitability to non-financial performance (see Table 4.15). Though the biggest effect is on non-financial performance while the least is on profitability, CEI still explains almost 10% of the variation in profitability. In the case of corporate strategic renewal, Hypothesis 7b, the results (see Table 4.16) indicate a strong support for growth and non-financial performance, and a modest support for profitability. The biggest effect is again on non-financial performance, while the least is on profitability. CESR explains almost more than 8% of the variation in non-financial performance. In the case of corporate

venturing, Hypothesis 7c, a modest support is found only for growth. While the amount of change in R^2 is only one % ($p<0.05$) in growth, no significant effect is observed on profitability and non-financial performance (see Table 4.17).

Table 4.16

Results of regression analysis: hypothesis 7b

H7b: *Corporate strategic renewal has a positive direct impact on performance.*

Dependent Variable	**Profitability**		**Growth**		**Non-Fin. Perf.**	
	β	**ΔR^2**	**β**	**ΔR^2**	**β**	**ΔR^2**
Control Variables		0.011		0,036**		0.012
Age	0.018		-0,135*		-0,030	
Size	0.045		0.079		-0,075	
Industry	0.055		0.012		0,097†	
Independent Variable		0,018*		0,060***		0,083***
Corporate Startegic Renewal (CESR)	0,139*		0,254***		0,299***	
df	307		305		306	
R^2	0.029		0.096		0.095	
Adjusted R^2	0.016		0.084		0.083	
F	2,258†		8,106***		8,050***	

*- *** p < 0.001; ** p < 0.01; * p < 0.05; † p < 0.10*
- The tolerance statistics are all well above 0,2 and the VIF values are all well below 10, average VIF=1,067
- Regression weights shown are standardized coefficients obtained at the final step.

Hypothesis 8 suggested a mediating role for CE, between entrepreneurial orientation and performance. Paths a and b of Figure 4.3, have already been shown in hypothesis 1 and 7, respectively. Thus, to reach a conclusion about full, partial, or no mediation, the testing of this mediation required to look for path m and then m' finally.

In Table 4.18 the results of the analysis where performance has been regressed on EO is displayed. Though the highest change in R^2 variation has reached only five %, EO has demonstrated a strong significant positive association with all performance dimensions. To decide the strength of mediation, a final hierarchical regression analysis where all dependent variables (performance dimensions in this case) have been regressed upon EO while controlling for CE has been conducted. While covariates have been entered in this first step, EO has been entered in the second step. In the final step, different CE forms have been entered separately. As the results summarized in Table 4.19 – 4.21 were compared with the results presented in Table 4.18, the following can be observed:

Table 4.17

Results of regression analysis: hypothesis 7c

H7c: *Corporate venturing has a positive direct impact on performance.*

Dependent Variable	**Profitability**		**Growth**		**Non-Fin. Perf.**	
	β	**ΔR^2**	**β**	**ΔR^2**	**β**	**ΔR^2**
Control Variables		0.011		0,036**		0.012
Age	0.002		-0,152*		-0,071	
Size	0.083		0,138*		0.010	
Industry	0.056		0.021		0.093	
Independent Variable		0.000		0,012*		0.000
Corporate Venturing (CEV)	0.011		0,112*		-0,018	
df	306		304		305	
R^2	0.011		0.049		0.013	
Adjusted R^2	-0,002		0.036		0.000	
F	0.842		3,889**		0.558	

*- *** p < 0.001; ** p < 0.01; * p < 0.05; † p < 0.10*
- The tolerance statistics are all well above 0,2 and the VIF values are all well below 10, average VIF=1,067
- Regression weights shown are standardized coefficients obtained at the final step.

Table 4.18

Results of regression analysis: hypothesis 8m

H8m: *Entrepreneurial orientation is positively associated with performance.*

Dependent Variable	**Profitability**		**Growth**		**Non-Fin. Perf.**	
	β	**ΔR^2**	**β**	**ΔR^2**	**β**	**ΔR^2**
Control Variables		0.011		0,036**		0.012
Age	0.010		-0,156		-0.054	
Size	0.043		0,104†		-0.045	
Industry	0.057		0.014		0,098†	
Independent Variable		0,029**		0,036***		0,050***
Entrepreneurial Orientation (EO)	0,173**		0,194***		0,229***	
df	309		307		308	
R^2	0.039		0.072		0.062	
Adjusted R^2	0.027		0.060		0.050	
F	3,159*		5,970***		5,114***	

*- *** p < 0.001; ** p < 0.01; * p < 0.05; † p < 0.10*
- The tolerance statistics are all well above 0,2 and the VIF values are all well below 10, average VIF=1,077
- Regression weights shown are standardized coefficients obtained at the final step.

In Table 4.18, the results of the analysis where performance has been regressed on EO is displayed. Though the highest change in R^2 variation has reached only five %, EO has demonstrated strong significant positive association with all performance dimensions. To decide about the strength of mediation, a final hierarchical regression analysis where all dependent variables (performance dimensions in this case) has been regressed upon EO while controlling for CE has been conducted. While covariates have been entered in this first step, EO has been entered in the second step. In the final step different CE forms have been entered separately. As the results summarized in Table 4.19 – 4.21 were compared with results presented in Table 4.18, the following can be observed:

Table 4.19

Results of regression analysis: hypothesis 8a

H8a: *Corporate innovativeness serves as a mediating variable between EO and performance.*

Dependent Variable	**Profitability**		**Growth**		**Non-Fin. Perf.**	
	β	**ΔR^2**	**β**	**ΔR^2**	**β**	**ΔR^2**
Control Variables		0.011		0,036**		0.012
Age	0.023		-0,144**		-0,039	
Size	0.029		0.090		-0,062	
Industry	0.058		0.014		0,099†	
Independent Variable		0,029**		0,036***		0,051***
Entrepreneurial Orientation (EO)	0.005		0.020		0.022	
Mediating Variable		0,071***		0,075***		0,107***
Corporate Innovativeness (CEI)	0,317***		0,327***		0,390***	
df	306		304		305	
R^2	0.110		0.148		0.170	
Adjusted R^2	0.095		0.134		0.156	
F	7,564***		10,532***		12,469***	

*- *** p < 0.001; ** p < 0.01; * p < 0.05; † p < 0.10*
- The tolerance statistics are all well above 0,2 and the VIF values are all well below 10, average VIF=1,226
- Regression weights shown are standardized coefficients obtained at the final step.

In the case of corporate innovation (see Table 4.19), CEI fully mediated the relationship between EO and all three dimensions of performance. In other words, both the size of the EO coefficient and the corresponding t-statistics have decreased from step 2 to step 3 in all three cases. Specifically, the dramatic decrease in EO coefficient has been from 0.17 to 0.01; 0.19 to 0.02; and 0.23 to 0.02 while the corresponding t-statistics have decreased from 3.43 to 0.32; 3.02 to 0.08; and 4.04 to 0.36 in

profitability, growth, and non-financial performance cases, respectively. Thus, hypothesis 8a is supported for all three dependent variables.

Table 4.20

Results of regression analysis: hypothesis 8b

H8b: *Corporate strategic renewal serves as a mediating variable between EO and performance.*

Dependent Variable	**Profitability**		**Growth**		**Non-Fin. Perf.**	
	β	**ΔR^2**	**β**	**ΔR^2**	**β**	**ΔR^2**
Control Variables		0.011		0,036**		0.012
Age	0.020		-0,134*		-0,028	
Size	0.027		0.064		-0,093	
Industry	0.057		0.014		0,098†	
Independent Variable		0,029**		0,036***		0,050***
Entrepreneurial Orientation (EO)	0,142*		0,117†		0,139*	
Mediating Variable		0.006		0,035***		0,048***
Corporate Startegic Renewal (CESR)	0.085		0,210***		0,246***	
df	306		304		305	
R^2	0.045		0.107		0.111	
Adjusted R^2	0.029		0.093		0.096	
F	2,891*		7,308***		7,593***	

*- *** p < 0.001; ** p < 0.01; * p < 0.05; † p < 0.10*
- The tolerance statistics are all well above 0,2 and the VIF values are all well below 10, average VIF=1,077
- Regression weights shown are standardized coefficients obtained at the final step.

In the case of strategic renewal, the strength of mediation was not as strong as in the case of CEI (see Table 4.20). The mediation was partial as EO's association with performance continued, though to a lesser degree, even after the influence of CESR was taken into account. In other words, in all three cases of performance, the coefficient and corresponding t-statistics have dropped in the final step but continued to be significant. Specifically, the decrease in EO coefficient has been from 0.17 to 0.14; 0.19 to 0.12; and 0.23 to 0.14 while the corresponding t-statistics has decreased from 3.02 to 2.30; 3.43 to 1.95; and 4.04 to 2.33 in profitability, growth, and non-financial performance cases, respectively.

In the case of venturing, as the prerequisite (path b) of mediation has not been fulfilled for cases other than growth, the mediation was not observed (see Table 4.21). Even, in the case of growth the decrease has been trivial. It has only been one % in coefficient, and 0.18 in corresponding t statistics.

Table 4.21

Results of regression analysis: hypothesis 8c

H8c: *Corporate venturing serves as a mediating variable between EO and performance.*

Dependent Variable	Profitability		Growth		Non-Fin. Perf.	
	β	ΔR^2	β	ΔR^2	β	ΔR^2
Control Variables		0.011		0,036**		0.012
Age	0.009		-0,144*		-0,060	
Size	0.044		0.097		-0,042	
Industry	0.057		0.022		0,094†	
Independent Variable		0,029**		0,036***		0,050***
Entrepreneurial Orientation (EO)	0,174**		0,184***		0,234***	
Mediating Variables		0.000		0,008†		0.002
Corporate Venturing (CEV)	-0,007		0,093†		-0,042	
df	305		303		304	
R^2	0.039		0.080		0.064	
Adjusted R^2	0.024		0.065		0.049	
F	2,498*		5,302***		4,158**	

*- *** p < 0.001; ** p < 0.01; * p < 0.05; † p < 0.10*
- The tolerance statistics are all well above 0,2 and the VIF values are all well below 10, average VIF=1,080
- Regression weights shown are standardized coefficients obtained at the final step.

The remaining part of the second model contained hypothesized moderating effect of environmental variables on CE – performance relationship. Hypothesis 9, suggested this moderation effect and prior to conducting hierarchical regression analysis all variables of interest were centered. In Step 1 of the regression, predictor variable (CE in this case); in Step 2, moderating variables (environmental dimensions in this case); and then in Step 3, the interaction terms have been entered, while controlling for age, size, and industry.

In the case of corporate innovation (Table 4.22), interaction of all environmental variables had a modest significant effect on growth. The effect has been negative in the case of interaction with hostility. Moreover, a modest significant positive interaction effect has been again observed with dynamism on profitability.

In the case of corporate strategic renewal (Table 4.23), the interaction of dynamism with CESR had shown strong significant effect on profitability. A much more modest interaction effect has been with dynamism and technological complexity on growth.

In the case of corporate venturing (Table 4.24), only a modest significant positive interaction effect of technological complexity on non-financial performance has been observed.

Table 4.22

Results of regression analysis: hypothesis 9a

H9a: *Performance is jointly determined by the interaction of increased i. hostility, ii. dynamism, and iii. technological complexity in the perception of environment and corporate innovativeness.*

Dependent Variable	**Profitability**		**Growth**		**Non-Fin. Perf.**	
	β	**ΔR^2**	**β**	**ΔR^2**	**β**	**ΔR^2**
Control Variables		0.011		0,036**		0.012
Age	0.014		-0,157**		-0,045	
Size	0.057		0,116*		-0,072	
Industry	0.057		0.018		0,098†	
Independent Variable		0,099***		0,111***		0,157***
Corporate Innovativeness (CEI)	0,344***		0,368***		0,377***	
Moderating Variables		0,034**		0.014		0.005
Hostility (H)	-0.076		-0,069		-0,077	
Dynamism (D)	-0.038		-0,014		0.000	
Technological Complexity (T)	-0,115†		-0,040		0.066	
Interaction Variables		0,024*		0,041**		0.008
H X CE	-0,036		-0,151*		0.065	
D X CE	0,150*		0,132*		0.029	
T X CE	0.040		0,132*		0.024	
df	300		298		299	
R^2	0.167		0.202		0.183	
Adjusted R^2	0.139		0.175		0.156	
F	6,022***		7,551***		6,708***	

*- *** p < 0.001; ** p < 0.01; * p < 0.05; † p < 0.10*
- The tolerance statistics are all well above 0,2 and the VIF values are all well below 10, average VIF=1,299
- Regression weights shown are standardized coefficients obtained at the final step.

In other words, in the case of growth, all environmental dimensions had shown a modest significant interaction effect with innovation. More modest significant interaction effects have been shown of strategic renewal with dynamism and technological complexity. Whereas, in the case of profitability, only dynamism had been observed to have an interaction effect. While the effect of interaction has been modest in the case of innovation, a stronger significant effect has been observed in the case of strategic renewal. Moreover, in the case of non-financial performance, interaction effect of technological complexity with venturing had a significant effect.

Table 4.23

Results of regression analysis: hypothesis 9b

H9b: *Performance is jointly determined by the interaction of increased i. hostility, ii. dynamism, and iii. technological complexity in the perception of environment and corporate strategic renewal.*

Dependent Variable	**Profitability**		**Growth**		**Non-Fin. Perf.**	
	β	**ΔR^2**	**β**	**ΔR^2**	**β**	**ΔR^2**
Control Variables		0.011		0,036**		0.012
Age	0.008		-0,148**		-0,032	
Size	0.065		0.091		-0,085	
Industry	0.057		0.013		0,095†	
Independent Variable		0,018**		0,060***		0,083***
Corporate Startegic Renewal (CESR)	0,163**		0,274***		0,279***	
Moderating Variables		0,031**		0.018		0.015
Hostility (H)	-0,165*		-0,154**		-0,129*	
Dynamism (D)	0.031		0.048		0.039	
Technological Complexity (T)	-0,088		-0,049		0.082	
Interaction Variables		0,050***		0,039**		0.007
H X CE	0.007		0.001		0.058	
D X CE	0,192**		0,133†		0.011	
T X CE	0.060		0,107†		0.034	
df	300		298		299	
R^2	0.110		0.154		0.116	
Adjusted R^2	0.080		0.125		0.087	
F	3,694***		5,411***		3,942***	

*- *** p < 0.001; ** p < 0.01; * p < 0.05; † p < 0.10*
- The tolerance statistics are all well above 0,2 and the VIF values are all well below 10, average VIF=1,428
- Regression weights shown are standardized coefficients obtained at the final step.

Table 4.25 summarizes the findings of hypothesis testing of model 2. According to these results, generally speaking, the heart of this study that puts CE as a mediating variable in between EO and performance is strongly confirmed for innovation dimension. The sesults of this study also strengthen the scholars' view that innovation constitutes the heart of CE activities. In terms of strategic renewal, partial mediation has been observed in growth and non-financial performance. The positive impact expected on performance has also been demonstrated for all types of CE expect for venturing. The moderating effect of dynamism and technological complexity has also demonstrated itself in most of the possible scenarios.

Table 4.24

Results of regression analysis: hypothesis 9c

H9c: *Performance is jointly determined by the interaction of increased i. hostility, ii. dynamism, and iii. technological complexity in the perception of environment and corporate venturing.*

Dependent Variable	**Profitability**		**Growth**		**Non-Fin. Perf.**	
	β	**ΔR^2**	**β**	**ΔR^2**	**β**	**ΔR^2**
Control Variables		0.011		0,036**		0.012
Age	0.001		-0,150*		-0,066	
Size	0,113†		0,148*		-0,015	
Industry	0.058		0.028		0,102†	
Independent Variable		0.000		0,012*		0.000
Corporate Venturing (CEV)	0.012		0,119*		-0,004	
Moderating Variables		0,028*		0.018		0,033*
Hostility (H)	-0,150*		-0,156*		-0,159*	
Dynamism (D)	0.002		0.038		0.052	
Technological Complexity (T)	-0,056		0.009		0,153*	
Interaction Variables		0.012		0.016		0.020
H X CE	0.096		0.097		0.062	
D X CE	-0,081		-0,049		-0,025	
T X CE	0.075		0.095		0,126*	
df	299		297		298	
R^2	0.051		0.083		0.065	
Adjusted R^2	0.019		0.052		0.034	
F	1.602		2,692**		2,079*	

*- *** p < 0.001; ** p < 0.01; * p < 0.05; † p < 0.10*
- The tolerance statistics are all well above 0,2 and the VIF values are all well below 10, average VIF=1,428
- Regression weights shown are standardized coefficients obtained at the final step.

Table 4.25

Summary of hypothesis testing findings – sub-model 2

i. Growth as the dependent variable:

H7ai: *Corporate innovation is positively related to growth.*	***S******
H7bi: *Corporate strategic renewal is positively related to growth.*	***S******
H7ci: *Corporate venturing is positively related to growth.*	***S****
H8mi: *Entrepreneurial orientation is positively related to growth.*	***S******
H8ai: *Corporate innovation serves as a mediating variable between entrepreneurial orientation and growth.*	***S - Full***
H8bi: *Corporate strategic renewal serves as a mediating variable between entrepreneurial orientation and growth.*	***S - Partial***
H8ci: *Corporate venturing serves as a mediating variable between entrepreneurial orientation and growth.*	***NS***
H9ai: *Growth is jointly determined by the interaction of hostility and corporate innovation.*	***S****
H9ai: *Growth is jointly determined by the interaction of dynamism and corporate innovation.*	***S****
H9ai: *Growth is jointly determined by the interaction of technological complexity and corporate innovation.*	***S****
H9bi: *Growth is jointly determined by the interaction of hostility and corporate strategic renewal.*	***NS***
H9bi: *Growth is jointly determined by the interaction of dynamism and corporate strategic renewal.*	***S†***
H9bi: *Growth is jointly determined by the interaction of technological complexity and corporate strategic renewal.*	***S†***
H9ci: *Growth is jointly determined by the interaction of hostility and corporate venturing.*	***NS***
H9ci: *Growth is jointly determined by the interaction of dynamism and corporate venturing.*	***NS***
H9ci: *Growth is jointly determined by the interaction of technological complexity and corporate venturing.*	***NS***

S: *Support;* ***NS:*** *No support****;*** ******:*** *p< 0.001;* *****:*** *p < 0.01;* ****:*** *p < 0.05;* ***†:*** *p < 0.10*

Table 4.25

Summary of hypothesis testing findings – model 2

ii. Profitability as the dependent variable:

H7aii: *Corporate innovation is positively related to profitability.*	***S******
H7bii: *Corporate strategic renewal is positively related to profitability.*	***S****
H7cii: *Corporate venturing is positively related to profitability.*	***NS***
H8mii: *Entrepreneurial orientation is positively related to profitability.*	***S****
H8aii: *Corporate innovation serves as a mediating variable between entrepreneurial orientation and profitability.*	***S - Full***
H8bii: *Corporate strategic renewal serves as a mediating variable between entrepreneurial orientation and profitability.*	***NS***
H8cii: *Corporate venturing serves as a mediating variable between entrepreneurial orientation and profitability.*	***NS***
H9aii: *Profitability is jointly determined by the interaction of hostility and corporate innovation.*	***NS***
H9aii: *Profitability is jointly determined by the interaction of dynamism and corporate innovation.*	***S****
H9aii: *Profitability is jointly determined by the interaction of technological complexity and corporate innovation.*	***NS***
H9bii: *Profitability is jointly determined by the interaction of hostility and corporate strategic renewal.*	***NS***
H9bii: *Profitability is jointly determined by the interaction of dynamism and corporate strategic renewal.*	***S****
H9bii: *Profitability is jointly determined by the interaction of technological complexity and corporate strategic renewal.*	***NS***
H9cii: *Profitability is jointly determined by the interaction of hostility and corporate venturing.*	***NS***
H9cii: *Profitability is jointly determined by the interaction of dynamism and corporate venturing.*	***NS***
H9cii: *Profitability is jointly determined by the interaction of technological complexity and corporate venturing.*	***NS***

S: *Support;* **NS:** *No support*; ***: $p < 0.001$; **: $p < 0.01$; *: $p < 0.05$*; †: $p < 0.10$*

Table 4.25

Summary of hypothesis testing findings – model 2

iii. Non-financial performance as the dependent variable:

H7aiii: *Corporate innovation is positively related to non-financial performance.*	***S******
H7biii: *Corporate strategic renewal is positively related to non-financial performance.*	***S******
H7ciii: *Corporate venturing is positively related to non-financial performance.*	***NS***
H8miii: *Entrepreneurial orientation is positively related to non-financial performance.*	***S******
H8aiii: *Corporate innovation serves as a mediating variable between entrepreneurial orientation and non-financial perf.*	***S - Full***
H8biii: *Corporate strategic renewal serves as a mediating variable between entrepreneurial orientation and non-financial perf.*	***S - Partial***
H8ciii: *Corporate venturing serves as a mediating variable between entrepreneurial orientation and non-financial perf.*	***NS***
H9aiii: *Non-financial perf. is jointly determined by the interaction of hostility and corporate innovation.*	***NS***
H9aiii: *Non-financial perf. is jointly determined by the interaction of dynamism and corporate innovation.*	***NS***
H9aiii: *Non-financial perf. is jointly determined by the interaction of technological complexity and corporate innovation.*	***NS***
H9biii: *Non-financial perf. is jointly determined by the interaction of hostility and corporate strategic renewal.*	***NS***
H9biii: *Non-financial perf. is jointly determined by the interaction of dynamism and corporate strategic renewal.*	***NS***
H9biii: *Non-financial perf. is jointly determined by the interaction of technological complexity and corporate strategic renewal.*	***NS***
H9ciii: *Non-financial perf. is jointly determined by the interaction of hostility and corporate venturing.*	***NS***
H9ciii: *Non-financial perf. is jointly determined by the interaction of dynamism and corporate venturing.*	***NS***
H9ciii: *Non-financial perf. is jointly determined by the interaction of technological complexity and corporate venturing.*	***S****

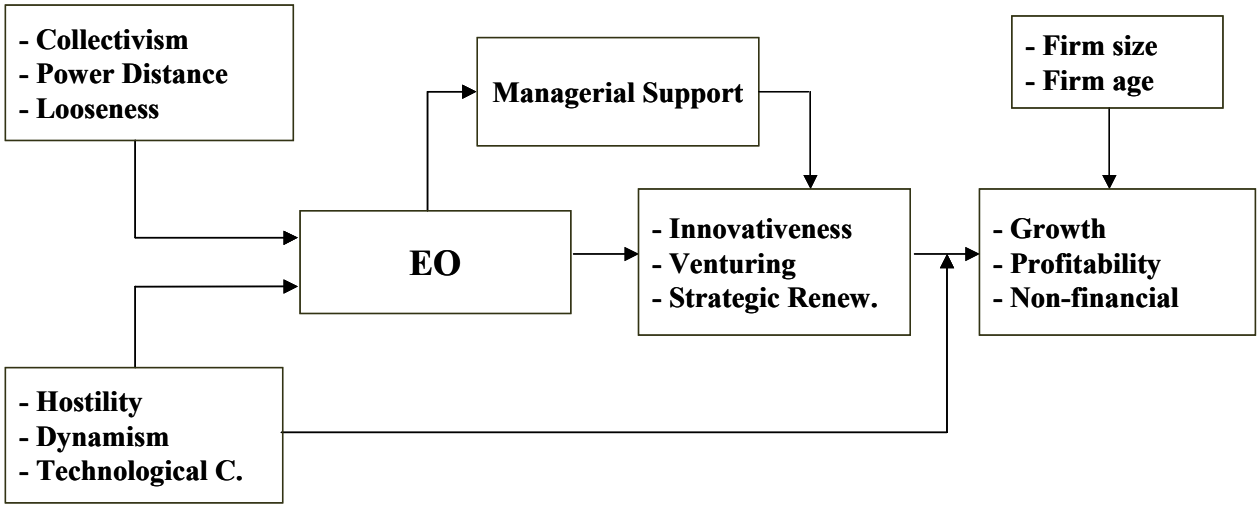
S: *Support;* **NS:** *No support*; *****:** $p < 0.001$; ****:** $p < 0.01$; ***:** $p < 0.05$; **†:** $p < 0.10$

4.3. Supplementary Confirmatory Testing: Path Analysis

"It is easy to become too grandiose when executing a structural model. Most valuable substantive theories are quite complex, and it is easy to hope that most of the complexity can be studied in the context of a single structural model. Rarely is this possible: the data are almost always far more complex than ever the best theory."
(Bentler & Chou, 1987)

A path-analytic model was tested to simultaneously explore the whole relations proposed in Figure 4.2. A subset of Structural Equation Modeling (SEM), path analysis is a multivariate procedure that allows examination of a set of relationships between one or more independent variables and one or more dependent variables, either continuous or discrete (Stage, Carter, & Nora, 2004). The sample size of 347 is adequate for analysis as recommended by Kline (2005) as 10 times as many as parameters.

Figure 4.5
The firm-level entrepreneurship revised model



In this model (see Figure 4.5), unlike the whole model proposed (see Figure 1.1), a direct impact of MS on CE forms rather than a moderation effect has been examined, based on the findings of hierarchical regression analysis. The analysis has been conducted for all three dimensions of performance. The output summarized in Table 4.26 below displays the fit of the models. All the model fit indices seem to reach acceptable threshold levels in four of the five indices. The NNFI fit indices, in all the cases, seem to be marginally below the acceptable level of 0.90. However, considering

the other indices, the model had a satisfactory fit. The parameter estimates of the models can be examined in Table 4.27 while the path diagram of the results can be seen in Figures 4.6 - 8. Confirming the findings of regression analysis in general, it can be said that the important antecedent role of EO and MS on CE forms and the mediating role of CE between these two antecedents and performance have been demonstrated. Moreover, the positive impact of CE forms on performance has once more been confirmed.

While almost all the results have been powerful in terms of innovation, more modest evidence has been shown for strategic renewal. Venturing, on the other hand, has behaved differently than the other two; furthermore for most of the cases, insignificance results have been associated with venturing. These results also confirm the innovation' leading role in CE activities. In terms of expected moderation effects of environmental variables, the analysis did not say much nor produce supportive results. In terms of antecedents of EO, technological complexity stacked out.

Table 4.26

Path analysis results: goodness of fit indices

	n	χ^2	df	χ^2/df	CFI	NNFI	IFI	RMSEA
Growth	307	307.11	201	1.53	0.91	0.89	0.92	0.04
Profitability	309	336.63	201	1.67	0.90	0.87	0.90	0.05
Non-financial Performance	308	334.57	201	1.66	0.90	0.87	0.90	0.05

Note: CFI= comparative fit index; NNFI=non-normed fit index; IFI= incremental fit index; RMSEA= root mean-square error of approximation

Figure 4.6

Path analysis results: growth

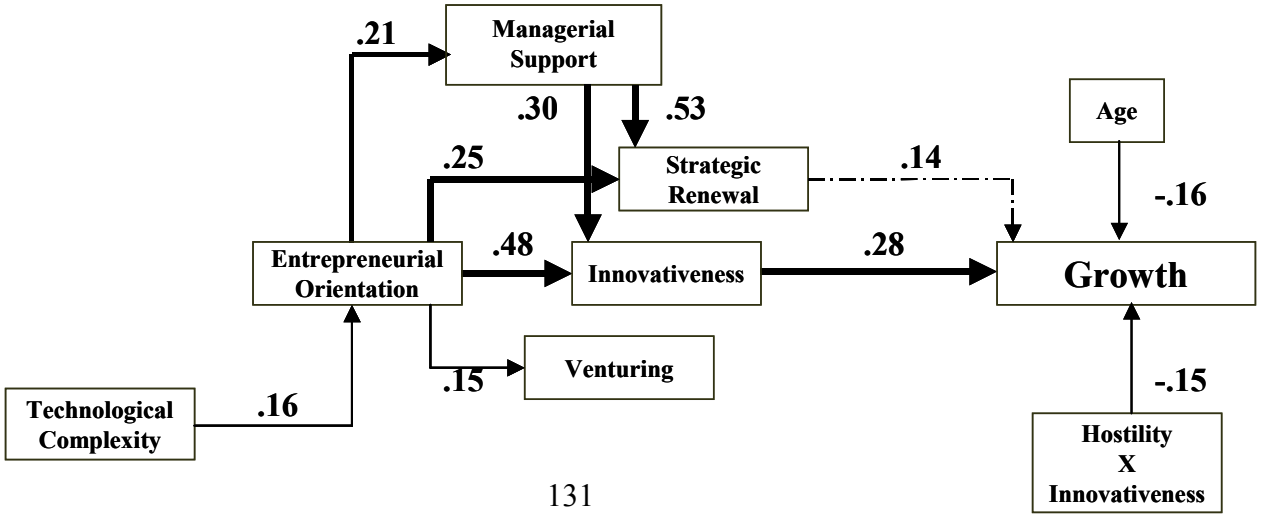


Figure 4.7

Path analysis results: profitability

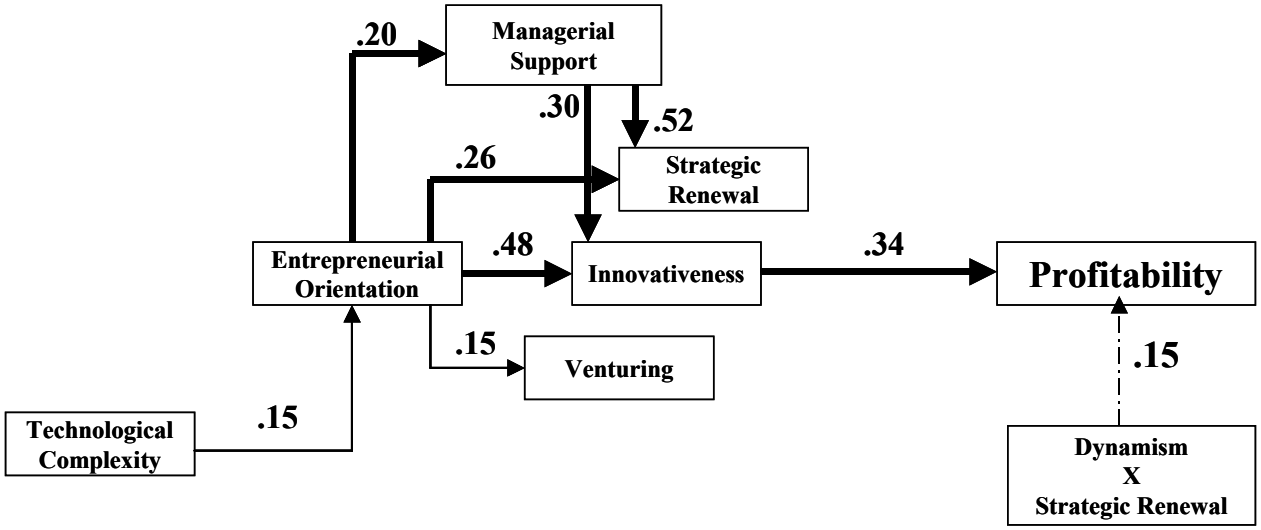


Figure 4.8

Path analysis results: non-financial performance

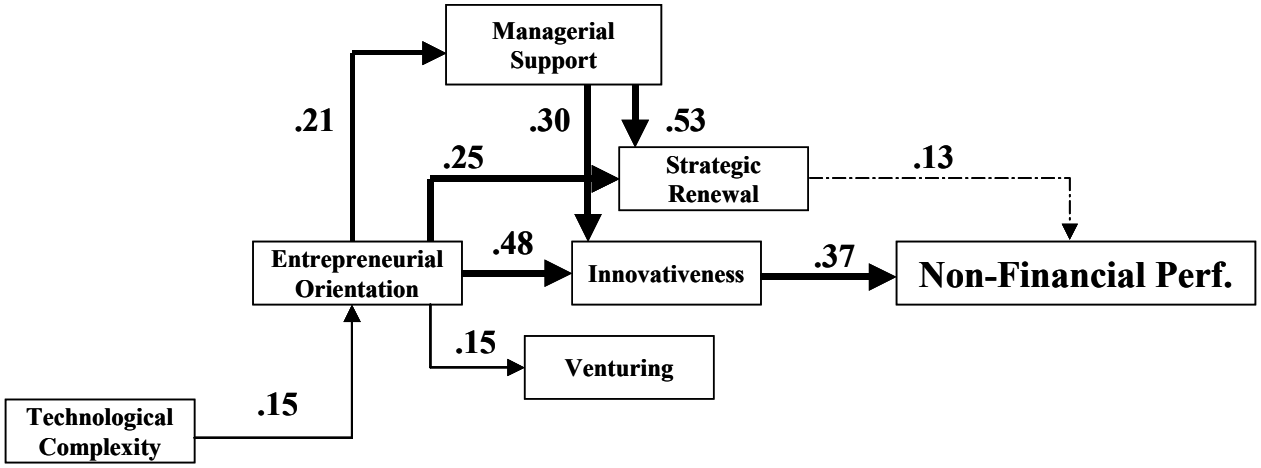


Table 4.27

Path analysis results: parameter estimates

	DV= Growth		DV= Profitability		DV= Non-financial per.	
Hypothesized Path	**Standardized Estimate**	**t Statistics**	**Standardized Estimate**	**t Statistics**	**Standardized Estimate**	**t Statistics**
H to EO	0.001	0.019	0.001	0.017	0.002	0.021
D to EO	0.101	1.305	0.116	1.507	0.102	1.326
T to EO	0.156	2.289*	0.148	2.172*	0.154	2.255*
IC to EO	0.020	-0.261	-0.005	-0.063	-0.021	-0.275
PD to EO	0.110	-1.470	-0.099	-1.322	-0.111	-1.490
TL to EO	0.036	0.502	0.037	0.516	0.036	0.512
EO to MS	0.205	3.239**	0.203	4.765***	0.205	3.246**
EO to CEI	0.482	8.810***	0.482	8.915***	0.482	8.818***
MS to CEI	0.295	5.387***	0.304	5.627***	0.295	5.391***
EO to CEV	0.151	2.139*	0.145	2.063*	0.151	2.146*
MS to CEV	0.026	0.367	0.001	0.016	0.026	0.374
EO to CESR	0.247	4.580***	0.257	4.765***	0.247	4.586***
MS to CESR	0.530	9.820***	0.522	9.684***	0.530	9.836***
CEI to DV	0.278	3.850***	0.345	4.571***	0.368	5.148***
CEV to DV	0.048	0.780	-0.024	-0.377	-0.083	-1.379
CESR to DV	0.140	1.896†	-0.017	-0.221	0.132	1.805†
Age to DV	0.157	-2.540*	-0.013	-0.195	-0.051	-0.827
Size to DV	0.076	1.223	0.024	0.375	-0.096	-1.558
H X CEI to DV	0.149	-2.164*	-0.018	-0.246	0.077	1.134
H X CEV to DV	0.104	1.432	0.102	1.346	0.075	1.032
H X CESR to DV	-0.004	-0.052	-0.080	-1.036	0.027	-0.370
D X CEI to DV	0.051	0.675	0.066	0.821	0.012	0.163
D X CEV to DV	-0.081	-1.087	-0.115	-1.481	-0.041	-0.554
D X CESR to DV	0.090	1.132	0.153	1.813†	-0.050	-0.634
T X CEI to DV	0.102	1.292	0.001	0.010	-0.039	-0.499
T X CEV to DV	0.057	0.902	0.039	0.594	0.079	1.271
T X CESR to DV	0.034	0.420	0.083	0.985	0.063	0.797

**** p < 0.001; ** p < 0.01; * p < 0.05; † p < 0.10*

5.
CONCLUSION

The broad scope of this thesis which was based on an equally extensive literature review, enabled the linking of constructs such as organizational culture, environmental context, management support, and entrepreneurial orientation; moreover examining how, in turn, these interactions might lead to CE, and business performance facilitated by the broad focus of this work. Furthermore, the emerging economy context, where organizations are more forced than are their competitors in developed economies to realize firm-level entrepreneurship, offered a fruitful, complex, and dynamic environment. Below are the major conclusions and implications followed by the limitations of the study. The chapter ends with suggestions for further research and a few concluding remarks.

5.1. Major Conclusions and Implications

The major conclusions are summarized below in four categories: 1) the mediation role of CE between EO and performance, 2) the multi dimensionality of CE and the performance variables, 3) the influence of external context on both CE and performance, and 4) the impact of both corporate culture and management support (internal resources) on EO and CE.

In particular, one of the main goals of this thesis was to develop a comprehensive understanding of firm level entrepreneurship and performance relationship, which has been claimed to be pervaded by a black box (Dess et al., 2003). Derived from the inconclusiveness of the past research, this relationship has been defined almost a decade ago as an active, fruitful research area (Zahra et al., 1999). However, empirically mixed

results (Wiklund & Shepherd, 2005) kept continuing. Leading scholars renewed the call to investigate the phenomenon (Covin et al., 2006; Rauch et al., 2004; Wiklund and Shepherd, 2003; 2005). As Wang (2008:635) concisely states, "simply examining the direct effect of EO on performance provided an incomplete picture of performance". Recently researchers have responded to the call and tested the incomplete picture by putting in some mediating and/or moderating mechanisms in between (Wang, 2008; Moreno & Casillas, 2008). For example, Wang (2008) proposes and examines learning orientation as the missing variable in EO – performance relationship, while Moreno and Casillas (2008) have focused on growth dimension of the performance and examined the type of strategy used, dynamism, hostility, and resource availability as mediators/moderators of the EO – performance relationship.

However, the basic motive behind this thesis is that the contradictory mixed results about CE – performance relationship can be due to the use of the EO construct in place of CE. As in the case of other strategic orientations (marketing, learning, alliance, etc.) in the strategy literature, the missing performance / behavior variable is needed in between the strategic orientation and final outcome variable. Orientation indicates a strategic attitude towards a behavior, while behavior itself exhibits the action of bringing out the "new combination". Apart from paralleling to the literature of strategic orientations, this theorization is in line with the Schumpeterian understanding of entrepreneurship as well. Thus, the thesis hypothesizes that the function of CE or actual CE behavior mediates the relationship between EO and performance. Only under this formulation of roles and meanings attached to both terms, is it proposed that finding a solid, conclusive, and systematic direct positive relationship between firm level entrepreneurship and performance is possible.

Empirical findings strongly confirm the proposed hypothesis, making this formulation the most important contribution of this study. Except for corporate venturing, both innovativeness and strategic renewal positively impact all three performance measures, namely growth, profitability and non-financial performance; furthermore in all these cases, CE mediates the relationship between EO and performance. Observing CE on the basis of three distinct dimensions, as proposed here, makes it possible to observe how different combination of CE activities influence performance. But more importantly, the study shows that albeit the EO was the same and positively affected all forms of CE, CE mediation for EO and performance was full for innovativeness, partial for strategic renewal dimension, and none for corporate

venturing. Indeed, these varying results for different CE dimensions can be accepted as another supportive sign of CE and EO distinction as well as the necessity of using CE behavior variable as a mediator between orientation and performance. By doing so, whatever the degree of EO, the final outcome depends on the type of action derived from this orientation: being an innovative act, change in strategy or venturing.

Innovation was far more effective than were the other types of CE activities; this finding strengthened the scholars' view of innovation as the most important, vital constituent of CE common to all definitions and/or academicians (Covin & Miles, 1999; Sharma & Chrisman, 1999). Strategic renewal related hypotheses, though not as powerful as innovation, were mostly supported as well. The larger scale of the dimension itself that demands more investment in terms of money and time has reflected itself in its effect on profitability: level of significance has decreased, compared to growth and non-financial performance.

In the case of venturing activity, both in the coefficient and the level of significance a decrease has been observed. Most of the hypotheses related to venturing were not supported. This result may be due to characteristics of the dimension itself. Venturing activities, though initialized and created inside the organization, are mostly realized and executed outside the firm, demand more capital investment, and incur more risk than all other types of CE. It is a rather different facet of the phenomenon. The risks inherent in the dimension itself demand a supportive environment both outside and inside the firm. It may be that, the "open-to-crisis" nature of the Turkish economy combined with the risky nature of the dimension itself, make firms vulnerable to possible negative results of venturing and not much venturing activity is observed in the context of Turkey, i.e. firms operating in Turkish economy cannot make venturing a mainstream function of their business. In parallel, in the evidence of the answers given to venturing validation questions, the same could be argued for the firms in the sample. According to answers given to objective validation questions asked at the very end of the questionnaire, 40% of the firms in the sample did not establish any *independent and/or semi-independent business units* in the last three years, 31% of the firms in the sample did not *financially support* and/or *establish new business units*, and 50% of the firms in the sample did not realize *any joint ventures and/or acquisitions in the last three years.* Thus, most of the firms in the sample had not been in the venturing activity in the last three years. This inactivity explained much of the inconclusive and insignificant results. It was not fair to see the direct and mediating effect of something

not practiced. But still with this low venturing activity, the study demonstrates that venturing impacts positively and directly growth performance. This result indicates that it is very likely that when venturing activities increase, then they definitely impact on profitability and non-financial performance as well.

The second set of conclusions is about the multi dimensionality of the constructs and it is clear that the study offered valuable insights both for CE and performance constructs. The varying performance effects of different CE dimensions evidenced another important conclusion about the multi dimensionality of the CE construct. Though some examples of CE utilization as a composite variable (Simsek et al., 2007) have been observed in the literature[9], the compositeness certainly pushes the researcher to miss most of the variation. Featuring different properties, different dimensions signal different implications for academicians and practitioners. In the case of a composite variable, it is highly probable that leading the CE activities, innovation may bias the results. Thus, the findings confirm that CE should always be examined in different dimensions.

The findings also once more confirmed the multi dimensionality of the performance variable. Results demonstrated varying effects of different types of CE on all differing dimensions of performance. Despite the multidimensional nature of the performance construct (Wiklund & Shepherd, 2005), most empirical research undertaken thus far has examined the performance by combining indicators associated with profitability and growth (Moreno & Casillas, 2008), although these dimensions may sometimes be contradictory (Delmar, Davidsson, & Gartner, 2003). As CE behavior may bear some risks, especially in the initial years, growth may not bring profitability. Thus, in the case of profitability, the lagged performance effect (Zahra, 1991; Zahra & Covin, 1995) may be more of an issue. In other words, growth, more than profitability, tends to be considered as a logical and immediate consequence of firm level entrepreneurship behavior (Brown et al., 2001; Stevenson & Jarillo, 1990). Moreover, studies have found sales growth to be the most commonly identified measure of overall organizational performance (Hubbard & Bromiley, 1995; Weinzimmer et al., 1998). The findings of the study confirmed previous literature. In the case of growth, the consequences and relationships were much more clear and almost all the hypotheses other than those related to venturing were supported. Last but not least, this study's

[9] Inline with previous applications in the literature CE has also been analyzed as a composite variable. The results of that analysis can be seen in Appendix C.

other important contribution was to demonstrate the positive association of firm-level entrepreneurship behavior with the mostly neglected non-financial dimension of performance. In the case of non-financial performance, hypotheses other than those related to interaction of environmental variables were all supported.

The third set of conclusions relates to the influence of external context on both CE and performance. Though in the case of Turkish economy, not yet powerful and sheltered sufficiently, the study proposed that unstable economic environmental conditions combined with the transition period would strengthen the impact of dynamism and hostility. However exactly the opposite outcome has been observed after the analysis. As technological complexity was very low compared to that of advanced countries, it was not envisioned to be as influential as the other two external factors; however important finding was the foremost effect of technological sophistication among other, mostly studied dimensions of dynamism and hostility. It might be that in the context of comparingly low level of technological sophistication, firms aware of their environments and technologically sophisticated enough (or sophisticated relatively more) stuck out. It could be that, firms operating in a complex environment accompanied by minor or major crisis for a long while, got accustomed to hostile and dynamic conditions and among all these dimensions, where the firms were much less accustomed, technological complexity created the difference. Though dynamism had significant effects especially when the dependent variable was profitability, almost none of the hostility related hypotheses were supported, apart from the interaction effect observed in the case of growth.

One other plausible explanation in explicating the emerging of technological complexity may be its surpassing effect in a simultaneous analysis. It can be that, other more studied dimensions of hostility and dynamism (Miller, 1983; Naman & Slevin, 1993; Wiklund & Shepherd, 2005) were not as effective as they were in the simultaneous analysis. As technology becomes more involved in everyday life, the technological complexity dimension might have further effects not evidenced so far. The challenge and pace are natural consequences of technologically sophisticated environmental settings. Thus, the great uncertainty and/or rapid change push for an entrepreneurial posture and firms may feel that only through CE behavior will they be able to capture a share of a high-tech market, sufficient to sustain organizational viability.

In addition, albeit the results indicated a positive association especially with technological complexity and dynamism, the interaction of CE types with environmental dimensions was not that significantly related to performance, especially in the case of profitability and non-financial dimensions. There may be a number of possible explanations for this as well. A possible major one may be the lagged performance effect (Zahra, 1991; Zahra & Covin, 1995) again, especially in the case of profitability. The cross sectional research design did not allow observing the sufficient time for CE behaviors to have their full market impact. In the case of non-financial performance, the general insignificance of the results may be due to the nature of the dimension itself.

The final group of conclusions is concerned about the impact of both organizational culture and management support (internal resources) on EO and CE. One of the other primary contributions expected out of this study was to observe the effects of mostly neglected organization culture variables, on the formation of EO. Though not strong as expected (not confirmed in path analysis in the same significance level), the power distance dimension seemed to have an important role in the formation of EO, which mediated the relationship of PD, both with innovation and strategic renewal. However, the same significant effects have not been observed for ind-col and TL dimensions. In the case of TL, this insignificance may be due to the novelty and insufficient theorization in the background of the dimension, while it may be due to the advantages and disadvantages, both individualism and collectivism offer in the case of ind-col. These results require consideration of aspects of organizational structure, culture, and resources and competencies that can indirectly support or impede entrepreneurial firm-level behavior.

Confirming the previous findings (various works of Hornsby, Kuratko, Montagno, & Zahra, 1990; 1999; 2002), once more in an emerging economy setting, another important finding was that CE behavior is strongly associated with senior executives' continued support. As turns out, managerial support is one of the actualization tools fed from the disposition in the heads of management that directly affects CE behavior and action. Besides scoring high on power distance, the Turkish culture dominating the contextual environment had high paternalistic values in which subordinates reciprocate the care, support and protection they expect from the paternal authority by showing more loyalty, deference and compliance. Thus in this context, management support had already been envisioned to gain more importance than it does in western contexts. As

expected, indeed more than expected, management support behaved as a powerful antecedent of CE action with its positive direct impact.

Thus, the managerial implication relates to the fact that entrepreneurial posture affects and, more significantly, is affected by multiple organizational and environmental elements. Specifically, because of the numerous and complex interrelationships between entrepreneurial posture and other contextual variables, managers must manipulate the organizational support, reward, and recognition mechanisms, to create, to the extent possible, an organizational context that supports and helps to sustain CE behavior. As the findings demonstrate, high managerial support will pay off much in creating and promoting entrepreneurial behavior. Moreover, it will be reasonable to promote HR practices reflecting and signaling lower power distance perceptions in the minds of the employees, to increase the prevalence of entrepreneurial orientation among employees. However, considering the prevailing paternalistic values and the highly distant power allocation mechanisms besides centralized decision making, strong leadership, limited delegation, and the management positions generally held by owning family members among Turkish businesses (Aycan, 2001), promoting HR practices reflecting and signaling lower power distance perceptions in the minds of the employees will be hardly applicable. However, those firms succeed in creating at least this perception can make a difference among competition, as in the case of technologically sophisticated firms prepared for technological developments.

5.2. Possible Limitations

The trial of achieving "as much as possible" brought an unavoidable decline in accuracy, simplicity, and generalizability in this study, as well as other studies. In other words, as with every study in social science, this research also had a number of conceptual and methodological limitations, which nevertheless provided fruitful avenues for future research.

Foremost among the limitations has been the reliance on self-report items in measuring the most of the variables. Albeit the results of validity and reliability tests, combined with the utilization of multirater and objective item validations, brought sufficient confidence in these measures, measurement of different variables through

different respondents or measurement of some variables through archival or objective data in a similar study yet could have yielded more powerful results. Moreover, despite the demonstration of construct validity for the measures, as well as other data collection techniques, mail surveys also have limitations that can affect the quality of the findings. As in the case of each and every survey data, though all the precautions (notices on the surveys itself and invitation letters, the validation of most of the measures through actual reflections where possible) known and possible were taken, social desirability bias might have been influential on the data. Thus, cautious interpretation should still be in order, and one should not totally dismiss source bias.

Another limitation of this study was the use of societal-culture factors at the organizational-level and measurement of culture only through at most three respondents in each firm. However, as shown in the hypothesis development part, previous literature has already approved the use of societal cultural values at the organizational level (Earley, 1993) and HR practices as actual reflections of cultural dimensions, were utilized for validation purposes to overcome part of this problem. Moreover, r_{wg} statistics did indicate a high degree of agreement among the respondents in each company, suggesting that the results would likely be the same even with larger samples of employees from each firm.

As in the case of most social science studies employing limited number of firms in the analysis, there may be a question of generalizability. This limitation remains, that can never wholly be defeated. However, the detailed exploratory phase of the study was mostly to overcome part of the problem. No industry represented more than 15% of the sample. Because of broad representation of types and sizes of businesses and the absence of one type of firm dominating the sample, these findings should have some degree of generality. Nevertheless, "doing normal science" works in this way (Kuhn, 1962).

Moreover, the adaptation of only the three dimensions of culture, possibly overlooking other dimensions, may be another limitation. In line with this, there are certainly some other variables that affect the relationships studied. For example, other organizing principles (e.g., organizational structure, leadership) not studied in this study may possibly affect firms' social climates thus EO. However, as clearly noted by Weick (1979, as cited in Denison, 1990) social research being general, accurate, and simple simultaneously, is unattainable, because of the inevitable trade-offs.

Another limitation was the study's short time frame, which did not permit an analysis of causal relationships among the variables. The cross-sectional data did not allow causal inferences about the longitudinal interplay between the antecedents of CE, CE itself, and performance; especially the interplay between CE and performance. Anyway, a reverse relationship may not be highly plausible as previously asserted in the literature (Covin and Slevin, 1989).

Last but not least, as argued by Sykes (1986), although the number of failures out of new entrepreneurial activities appears to surpass the number of successes, this fact has not been considered in majority of the research due to survivor bias inherent in almost all of them. Unfortunately, this study has not been contested.

5.3. Further Study

It is hoped that despite the limitations summarized above, the evidence presented in this study will inspire future interest and provoke validation of falsification of the ideas presented. More empirical tests of the mediating role of CE between EO and performance in various contexts will confirm this study's unique formulation. Turning back to Schumpeter, the research must focus on "what" and "realized new combinations" besides dispositions. Treating EO as an antecedent strategic variable rather than a sole indicator of CE, measuring it as a five dimensional concept as suggested by Lumpkin and Dess (1996), and successfully testing in this study may help in better explaining the firm level entrepreneurship and related constructs. As the differing roles of EO and CE behavior are sharpened, the relationship of firm level entrepreneurship with performance will be solidified.

Another possible extension of this research would be the continual investigation of organizational culture phenomenon, in different contexts and maybe through various dimensions. With its ambiguous and socially complex structure, which has ties in the history or founder of the organization, organizational culture should not be neglected in CE studies.

Also, an interesting extension of the work presented here will involve the incorporation of other variables into the model. In particular, the inclusion of individual-level variables may bring some more variation into the phenomenon of firm

level entrepreneurship. Leadership and its role in promoting strategic orientations and/or entrepreneurial behavior may be leading points for improvement.

Nonetheless, as a final remark, it should be noted that technological complexity and non-financial performance should be more incorporated into firm-level entrepreneurship studies as both have been demonstrated to be significant and important in the complex mechanism of firm level entrepreneurship.

5.4. Concluding Remarks

Acceptance of Schumpeter's concepts about entrepreneur might reduce the continual need for definitions particularly in the case of entrepreneur and intrapreneur. As concisely stated by Covin and Slevin (1991) "organizations can and should be viewed as entrepreneurial entities. Limiting discussion of entrepreneurship and the entrepreneurial process to individuals is unduly restricting." As long as the confusion about definitions is solved by the utilization of Schumpeter's entrepreneurship theory, research focusing on the question of "who is entrepreneur?" might transform into the question of "what, and what is the entrepreneurial context and process?" By preventing the misleading research questions, research focusing more on the function and the interaction process occurring, might enrich entrepreneurship understanding with a combinatorial analysis.

The firm level entrepreneurship has once been demonstrated to be a product of complex mechanisms and an important contributor of firm performance in every dimension. Thus, as highlighted by Zahra et al. (2000a) CE is one of keys for emerging economies and emerging economy firms to revitalize, to reconfigure resources, and to transform into market-oriented economies / firms ready to compete in the global economy. To be among the winners for present day and near future, both firms and policy makers of emerging economies as well as developed economies, should promote and support entrepreneurial behavior.

Appendix A.
A copy of survey

Şirket Kültürü ve Kurumsal Girişimcilik Anketi

Bu anket, Sabancı Üniversitesi Yönetim Bilimleri Fakültesi'nde yürütülen, önemli sorulara ışık tutacağını ve Türk iş hayatına önemli katkıları bulunacağını umduğumuz bir araştırma projesinin parçasıdır.

Anketi oluşturan soruları cevaplamak, çok kıymetli olduğunu bildiğimiz yaklaşık yirmi dakikanızı alacaktır. Katılımınız için şimdiden teşekkür ederiz. Her daim özlenen ve arzulanan üniversite – sanayi işbirliğinin bir ürünü olduğunu düşündüğümüz bu gibi çalışmaların, işbirliğini daha verimli bir hale getirmesini ve tüm katılımcılar için ilginç bir deneyim olmasını diliyoruz.

Anketin hiçbir yerinde sizi ve şirketinizi tanımlayacak özel bir bilgi istenmemektedir. Elde edilecek veriler KESİNLİKLE GİZLİ tutulacak ve anonim olarak sadece akademik araştırma ve analizlerde kullanılacaktır.

Anketteki soruların doğru veya yanlış cevapları yoktur. Sizi rahatsız eden ve kesinlikle yanıt vermek istemediğiniz sorular olursa boş bırakabilirsiniz. Bunun dışında, akademik araştırmanın sağlıklı sonuçlar verebilmesi için lütfen tüm soruları eksiksiz ve samimi bir şekilde yanıtlayın.

Anketi eksiksiz dolduran katılımcılardan dileyenlere, adreslerini yazdıkları takdirde çalışmanın sonuçlarına dair, faydalanacağınızı umduğumuz bir sonuç raporu gönderilecektir.

Sonuç raporu istiyorum (……)
Adresim:

!!!!! dikkat !!!!! dikkat !!!!! dikkat !!!!!
LÜTFEN ANKETİ, EKTEKİ, POSTA ÜCRETİ ÖDENMİŞ (TAKSELİ) VE ADRES BASILI ZARFA KOYARAK YOLLAYINIZ.

TEŞEKKÜRLER

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KATILIMCI BİLGİLERİ:

i. Şirket içindeki mevcut pozisyonunuza en yakın tanımlama aşağıdakilerden hangisidir? (lütfen ilgili alanı işaretleyiniz)

Yönetim Krl. Bşk./Genel Müdür/CEO, vb. **(…....)** Başkan Yard./Genel Müdür Yard./Direktör, vb. **(…....)**

İnsan Kaynakları/Personel/İdari İşler Müdürü **(…….)** Diğer Müdür *(lütfen belirtiniz):* **……..……..**

Diğer Müdür dışında *(lütfen belirtiniz):* **……..…….....**

ii. Kaç yıldır bu pozisyonda bulunmaktasınız? **(…….)**

iii. Kaç yıldır bu şirkette çalışmaktasınız? **(…….)**

ŞİRKET ORTAMI:

I. E bölümüne kadarki birinci kısımda, her bir cümleye, ŞİRKETİNİZ İÇİN ne ölçüde katılıp katılmadığınızı, aşağıdaki ölçeğe uygun olarak derecelendirerek, rakamlar üzerinde işaretleyeniz.

1= SOL sütundaki ifadeyi **EN İYİ** yansıtır.	**2= SOL** sütundaki ifadeyi **OLDUKÇA** yansıtır.	**3= SOL** sütundaki ifadeyi **AZ** yansıtır.	**4= Tam arada bir durumu ifade eder.**	**5= SAĞ** sütundaki ifadeyi **AZ** yansıtır.	**6= SAĞ** sütundaki ifadeyi **OLDUKÇA** yansıtır.	**7= SAĞ** sütundaki ifadeyi **EN İYİ** yansıtır.

Örnek:	Bu çalışmanın etkisi çok kısıtlı olacaktır	1	2	3	4	5	X	7	Bu çalışmanın etkisi çok fazla olacaktır.

A. Şirketinizin faaliyet gösterdiği çevreyi[10] nasıl tanımlardınız? *(Aşağıdaki 11 unsura yönelik sorudur.)*									
1.	Yatırımların ve pazarlama fırsatlarının bol olduğu, hiç stresli olmayan bir çevre.	1	2	3	4	5	6	7	Rekabetin şiddetli olduğu, titizlik gerektiren, çok stresli ve saldırgan bir çevre.
2.	Kontrol edebildiğimiz, hatta kendi çıkarlarımıza uygun olarak yönlendirebildiğimiz bir çevre.	1	2	3	4	5	6	7	İçinde barındırdığı rekabetçi, politik ve teknolojik güçlere karşı yaptırımlarımızın çok az oranda etkili olabildiği, hükmedilen değil hükmeden bir çevre.
3.	Varlığımıza yönelik tehditler içermeyen, güvenli, iyi performansın sürdürülmesine uygun bir çevre.	1	2	3	4	5	6	7	Yanlış bir adımın şirketin yok olmasına yol açabileceği, çok riskli ve tehditkar bir çevre.
4.	Rakiplerin davranışlarını tahmin edebilmenin oldukça kolay olduğu bir çevre.	1	2	3	4	5	6	7	Rakiplerin davranışlarını tahmin edebilmenin oldukça zor olduğu bir çevre.
5.	Müşteri gereksinim ve tercihlerini tahmin edebilmenin oldukça kolay olduğu bir çevre.	1	2	3	4	5	6	7	Müşteri gereksinim ve tercihlerini tahmin edebilmenin oldukça zor olduğu bir çevre.
6.	Genel anlamda, gelecekle ilgili tahminde bulunmanın oldukça kolay olduğu, çok tahmin edilebilir nitelikte bir çevre.	1	2	3	4	5	6	7	Tahmin edilebilir nitelikte olmayan, değişimlerin yönünü ve doğasını öngörebilmenin oldukça zor olduğu bir çevre.
7.	Oldukça durağan, hatta daralan bir pazar yapısının olduğu bir çevre.	1	2	3	4	5	6	7	Mevcut pazarların hızla genişlediği ve yenilerinin hızla ortaya çıktığı bir çevre.
8.	Teknoloji değişim hızının oldukça yavaş olduğu bir çevre.	1	2	3	4	5	6	7	Yeni teknolojik gelişmelerin hızla devreye girdiği, teknoloji değişim hızının çok yüksek olduğu bir çevre.
9.	Ürünlerin, uzun süre yaşayıp popüler kaldığı bir çevre.	1	2	3	4	5	6	7	Ürünlerin, hızla demode olup popülerliğini kaybettiği bir çevre.
10.	Yüksek oranda teknolojik birikim ve yetkinlik gerektirmeyen bir çevre.	1	2	3	4	5	6	7	Teknolojik anlamda çok gelişmiş ve karmaşık bir çevre.
11.	Neredeyse hiç araştırma geliştirme (ARGE) faaliyeti yürütülmeyen bir sektör.	1	2	3	4	5	6	7	Çok yüksek oranda ARGE odaklı bir sektör.
B. Şirketimiz, rekabet ortamında … *(B bölümündeki unsurların başında gelen ifadedir.)*									
1.	çok nadir olarak, yeni ürün/hizmetlerin, üretim teknolojilerinin ve idari/teknik yeniliklerin pazara sunulmasında öncü şirket rolünü üstlenir.	1	2	3	4	5	6	7	çok sık olarak, yeni ürün/hizmetlerin, üretim teknolojilerinin ve idari/teknik yeniliklerin pazara sunulmasında öncü şirket rolünü üstlenir.

[10] Şirketin içinde bulunduğu ortamın bütününü (sektör, rakipler, tedarikçiler, pazar, ekonomik koşullar, vb.) ifade eder.

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B. Şirketimiz, rekabet ortamında …									*(B bölümündeki unsurların başında gelen ifadedir.)*
2.	genel olarak rakipleri takip eder ve onların hamlelerine cevap verir.	1	2	3	4	5	6	7	genel olarak rakiplerin daha sonra takip edeceği, yeni ve öncü uygulamaları başlatır.
3.	yeni ürün ve fikirlerin pazara sunumunda büyük oranda rakipleri ve "lideri" takip etme eğilimindedir.	1	2	3	4	5	6	7	yeni ürün ve fikirlerin pazara sunumunda büyük oranda rakiplerin önünde, öncü olma eğilimindedir.
4.	hukukun ve kuralların elverdiği ölçüde işbirliğini ve "beraber var olma" felsefesini takip eder.	1	2	3	4	5	6	7	"rakibi yok et" düsturu ile ve çok saldırgan bir tarzda hareket eder.
5.	rakiplerden iş/müşteri kapmak için özel bir çaba göstermez.	1	2	3	4	5	6	7	fazlasıyla rekabetçi ve çok saldırgandır.
6.	pazar payı kapmak için özel bir çaba göstermez.	1	2	3	4	5	6	7	pazar payı kapmak ve pazarda bir numara olmak uğruna karlılıktan bile vazgeçer.
C. Geçmiş üç yılda şirketimizde…									*(Aşağıdaki 3 unsurun başındaki ifadedir.)*
1.	ürün/hizmet bazındaki değişiklikler daha çok ufak çaplı iyileştirmeler şeklinde olmuştur.	1	2	3	4	5	6	7	ürün/hizmet bazındaki değişiklikler genellikle dramatik, büyük çaplı değişimler şeklinde olmuştur.
2.	hiç yeni ürün/hizmet pazarlanmamıştır.	1	2	3	4	5	6	7	çok fazla yeni ürün/hizmet pazarlanmıştır.
3.	üst yönetim, denenmiş ve başarılı olmuş ürün ve hizmetleri pazara sunmayı tercih etmiştir.	1	2	3	4	5	6	7	üst yönetim, ARGE faaliyetlerine, teknolojik liderliğe ve yenilikçiliğe önem vermeyi tercih etmiştir.
D. Şirketimizde …									*(D bölümündeki tüm unsurların başında gelen ifadedir.)*
1.	eğitim ihtiyaçları karşılıklı diyalog halinde ve uzlaşma ile belirlenir.	1	2	3	4	5	6	7	eğitim ihtiyaçları tek yönlü tarzda belirlenir.
2.	eğitimler daha çok ekibe özel planlanır ve alınır.	1	2	3	4	5	6	7	eğitimler daha çok bireye özel planlanır ve alınır.
3.	karar alma süreci diyalog temelli ve uzlaşma odaklıdır.	1	2	3	4	5	6	7	karar alma süreci tek yönlü ve bireysel bazlıdır.
4.	hedefler, karşılıklı etkileşim içerisinde, uzlaşma gözetilerek belirlenir.	1	2	3	4	5	6	7	hedefler karşılıklı belirlenmez. Süreç, tek yönlü bir tarzda, hedef koyma/verme şeklinde yürütülür.
5.	sorumluluk dağılımı ekip bazlıdır.	1	2	3	4	5	6	7	sorumluluk dağılımı bireysel bazlıdır.
6.	ödüllendirme mekanizması (ikramiye ve ödül paylaşımı) ekip bazlıdır.	1	2	3	4	5	6	7	ödüllendirme mekanizması (ikramiye ve ödül paylaşımı) bireysel bazlıdır.
7.	şirketçe organize edilen sosyalleşme odaklı uygulamalar (piknik, yemek, spor, vb.) kısıtlıdır.	1	2	3	4	5	6	7	şirketçe organize edilen sosyalleşme odaklı uygulamalar yoğun ve yaygındır.
8.	kariyer gelişiminde, başarı ve performans en temel belirleyici özelliklerdir.	1	2	3	4	5	6	7	kariyer gelişiminde, başarı ve performans dışındaki özellikler (sadakat, kıdem, vb.) daha belirleyici rol oynar.
9.	işe alma sürecinde, temel değerlendirme ölçütü geçmiş performans ve başarıdır.	1	2	3	4	5	6	7	işe alma sürecinde, geçmiş başarı ve performans dışındaki özellikler (referanslar, eğitim, statü, aile, doğuştan gelen birikimler, vb) daha önemli rol oynar.
10.	açık kapı politikası uygulanmaktadır.	1	2	3	4	5	6	7	üst kademelerle iletişim ve erişimde tarif edilmiş kural ve yollar mevcuttur.
11.	kurallar, her seviyeden tüm çalışanlar için aynı ölçüde ve aynı şekilde geçerlidir.	1	2	3	4	5	6	7	kurallar, farklı seviye, kıdem ve bölümlerdeki çalışanlara göre farklılık gösterebilir.
12.	statüyle ilişkili hak ve imtiyazların (otopark kullanım hakkı, yemekhane kuralları, oda konumları, parasal olmayan sosyal haklar, vb.) dağılımında eşitlik temel alınır.	1	2	3	4	5	6	7	statüyle ilişkili hak ve imtiyazların (otopark kullanım hakkı, yemekhane kuralları, oda konumları, parasal olmayan sosyal haklar, vb.) dağılımında hiyerarşik farklılıklar gözetilir.

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D. Şirketimizde …								*(D bölümündeki tüm unsurların başında gelen ifadedir.)*
13.	an alt ile en üst kademenin ücretleri arasındaki fark oldukça düşüktür.	1	2	3	4	5	6	7	ücretlendirmede, an alt ile en üst kademe arasında büyük farklılıklar mevcuttur.
14.	insan kaynakları uygulamaları eşitlik gözetilerek planlanır ve yürütülür.	1	2	3	4	5	6	7	insan kaynakları uygulamaları hiyerarşik farklılıklar dikkate alınarak planlanır ve yürütülür.
15.	insan kaynakları uygulamaları kişi ve birimler arasında farklı şekillerde yürütülmektedir.	1	2	3	4	5	6	7	insan kaynakları uygulamaları tek elden ve merkezi olarak yürütülür.
16.	eğitimler merkezi olarak belirlenir.	1	2	3	4	5	6	7	eğitimler merkezden bağımsız olarak/yerel belirlenir.
17.	iş akitleri uzun vadeli veya süresiz olarak yapılır.	1	2	3	4	5	6	7	iş akitleri süreli ve kısa vadeli olarak yapılır.
18.	iş tanımları belirli ve özel(spesifik)dir.	1	2	3	4	5	6	7	iş tanımları esnek ve geneldir.
19.	herkesçe bilinen, açık ve resmi kontrol mekanizmaları mevcuttur.	1	2	3	4	5	6	7	herkesçe bilinmeyen, kapalı, esnek ve gayrı resmi kontrol mekanizmaları mevcuttur.
20.	insan kaynakları uygulamaları genel anlamda planlı, belirli ve uzun vadelidir.	1	2	3	4	5	6	7	insan kaynakları uygulamaları genel anlamda dönemsel, durumsal ve kısa vadelidir.
21.	ücret göstergesi (skalası) ve yan menfaatler belirli, herkesçe malum ve sabittir.	1	2	3	4	5	6	7	ücret göstergesi (skalası) ve yan menfaatler esnek ve değişkendir.
22.	kariyer gelişimi belirli kurallar dahilinde olur ve yavaştır. Basamaklar sırayla ve yavaş tırmanılır.	1	2	3	4	5	6	7	kariyer gelişimi (terfi, rotasyon, transfer) hızlıdır.
23.	kariyer planları belirli ve özel(spesifik)dir.	1	2	3	4	5	6	7	kariyer planları esnek ve geneldir.
24.	terfi ve atamalarda öncelik, şirket içi kaynaklardadır.	1	2	3	4	5	6	7	terfi ve atamalarda öncelik, şirket dışı kaynaklardadır.
25.	şirket içi rotasyon (farklı coğrafya ve birimlere atanma, vb.) çok alışılagelmiş değil ve sınırlıdır.	1	2	3	4	5	6	7	şirket içi rotasyon (farklı coğrafyalara veya birimlere atanma, vb. şekillerde) olağan ve yaygındır.
26.	standart bir yöneticilik tarzının uygulanmasında ısrar edilir.	1	2	3	4	5	6	7	yöneticilik tarzlarının, geniş bir yelpazede farklılaşmasına izin verilir.
27.	iletişim, iyice yapılandırılmış kanallar aracılığıyla yürütülür. Önemli finansal ve operasyonel bilgilere erişim çok sınırlıdır.	1	2	3	4	5	6	7	iletişim kanalları çok açıktır. Önemli finansal ve operasyonel bilgiler şirket içerisinde oldukça serbest bir şekilde dolaşır.
28.	karar alma sürecinde, en çok söz hakkının, yönetim kademelerine düşmesine büyük önem verilir.	1	2	3	4	5	6	7	karar alma sürecinde, hiyerarşik yapıyı ihlal edecek bile olsa, en çok söz hakkının konunun uzmanlarına verilmesine yönelik güçlü bir eğilim vardır.
29.	iş koşullarındaki değişimlere ayak uydurabilmek için, denenmiş ve başarılı olmuş yönetim prensiplerinin uygulanmasına büyük önem verilir.	1	2	3	4	5	6	7	değişen koşullara uyum sağlamada, başarılı olsa dahi geçmiş uygulamalar fazlaca dikkate alınmaz. Özgün ve farklı davranılmasına büyük önem verilir.
30.	çalışanların resmi ve belirli iş tanımlarına sıkıca bağlı kalmasına büyük önem verilir.	1	2	3	4	5	6	7	koşullar ve bireyin kişilik özelliklerinin, doğru ve düzgün iş başı davranışında belirleyici rol almasına yönelik güçlü bir eğilim vardır.
31.	çalışanların şirket prosedür ve kurallarını takip etmesine büyük önem verilir.	1	2	3	4	5	6	7	şirket prosedür ve kurallarını ihlal etmek uğruna bile olsa işin kotarılmasına büyük önem verilir.
32.	birçok faaliyet, resmi ve gelişmiş kontrol mekanizmaları ve bilgi sistemleri aracılığıyla denetlenir.	1	2	3	4	5	6	7	gayrı resmi, sıkı olmayan kontrol mekanizmaları hakimdir. Kişisel ilişkiler ve işbirliği normları belirleyici rol oynar.
33.	üst yönetimin düşük riskli (normal ve kesin geri dönüş oranına sahip) projelere güçlü bir yatkınlığı vardır.	1	2	3	4	5	6	7	üst yönetimin, yüksek riskli (yüksek geri dönüş oranlarını yakalama şansı bulunan) projelere güçlü bir yatkınlığı vardır.
34.	üst yönetim, en iyi davranış biçiminin faaliyet gösterdiğimiz çevreyle de ilişkili olarak, küçük ve yavaş adımlarla ilerlemek olduğuna inanır.	1	2	3	4	5	6	7	üst yönetim, şirket hedeflerine ulaşmak için, faaliyet gösterdiğimiz çevreyle de ilişkili olarak, gözü pek ve uzun vadeli davranışların gerektiğine inanır.
35.	belirsizlik içeren durumlarda karar verilirken, olası zararı en aza indirmek amacıyla, temkinli, "bekle ve gör" yaklaşımı uygulanır.	1	2	3	4	5	6	7	belirsizlik içeren durumlarda karar verilirken, olası yüksek getiriyi en üst düzeye çıkarmak amacıyla, cesur ve saldırgan bir tutum takınılır.

II. Bu bölümdeki soruları, yine ŞİRKETİNİZ İÇİN, bu defa aşağıdaki ölçeğe uygun olarak derecelendirerek, rakamlar üzerinde işaretleyeniz.

1= HİÇ katılMIyorum	2= KatılMIyorum	3= Ne katılıyorum, ne katılmıyorum	4= Katılıyorum	5= TAMAMEN katılıyorum

Örnek:	Bu anketin Türk iş yaşamına katkıda bulunacağına inanıyorum	1	2	3	**X**	5

E. Şirketimizde …	*(E bölümündeki tüm unsurların başında gelen ifadedir.)*					
1.	… "risk almak" olumlu bir özellik olarak algılanmaktadır.	1	2	3	4	5
2.	… hesap edilmiş risklerin alınması ödüllendirilir.	1	2	3	4	5
3.	… temel kararlar alınırken, nispeten riskli sayılabilecek liberal bir yaklaşım örneği sergilenir.	1	2	3	4	5
4.	… bir yeniliğin[11] (inovasyon) benimsenmesini kolaylaştırmak amacıyla, personel prosedür ve kısıtları devre dışı bırakılabilir.	1	2	3	4	5
5.	… bir yeniliğe kaynak yaratmak amacıyla, bütçe/harcama prosedür ve kısıtları devre dışı bırakılabilir.	1	2	3	4	5
6.	… yenilik üstünde çalışanlar, yeniliği geliştirirken standart işletme prosedürlerini devre dışı bırakabilirler.	1	2	3	4	5
7.	… yenilik üstünde çalışanlar, yeniliği geliştirirken üstlerine danışmadan karar alabilirler.	1	2	3	4	5
8.	… çalışanların, yenilikçi (inovasyon) proje ve fikirlerine mali destek bulabilecekleri farklı seçenekler mevcuttur.	1	2	3	4	5
9.	… iyi bir fikirle gelen çalışanlara, genellikle, fikri geliştirmeleri için ihtiyaç duyacakları zaman sağlanır.	1	2	3	4	5
10.	… çalışanlar, yeni proje fikirleri geliştirebilmek için diğer bölümlerdeki çalışanlarla işbirliğine gitmeleri yönünde cesaretlendirilirler.	1	2	3	4	5
11.	… yeni ve yenilikçi fikirler, genellikle, terfi veya diğer maddi tanıma yöntemleri ile ödüllendirilir.	1	2	3	4	5
12.	… başarılı yenilikçilik projelerine imza atan çalışanlar, standart ödüllendirme sistematiği dışında da ödüllendirilir.	1	2	3	4	5
13.	…yenilik ve kurumsal gelişimden sorumlu bölüm veya birimler mevcuttur.	1	2	3	4	5
14.	… işler öyle düzenlenmiştir ki, çalışanların yeni fikirler geliştirmek için gerekli zamanı vardır.	1	2	3	4	5
15.	… üst (tepe) yönetim, çalışanların öneri ve fikirlerine açıktır.	1	2	3	4	5
16.	… yöneticiler ve amirler, yaratıcılık ve yenilikçilik teknikleri konularında eğitim alırlar.	1	2	3	4	5
17.	… alt kademelerde çalışanlar, örgüt içinde güç kazanamazlar.	1	2	3	4	5
18.	… üstler astlarıyla ilişkilerinde, sıklıkla, otorite ve güçlerini kullanırlar.	1	2	3	4	5
19.	… yöneticiler ve amirler, iş yerinde astlarıyla sosyalleşmekten kaçınırlar.	1	2	3	4	5
20.	… astlar, üstlerinin kararlarını sorgulamazlar.	1	2	3	4	5
21.	… yöneticiler ve amirler, zor ve önemli işlerini astlarına aktarmazlar.	1	2	3	4	5
22.	… yöneticiler ve amirler, çoğu kararlarını astlarına danışmadan alırlar.	1	2	3	4	5
23.	… alt kademelerde çalışanlar, çevrelerinde çalışanlara yönelik önemli kararları alma sorumluluğunu taşımazlar.	1	2	3	4	5
24.	… yöneticiler ve amirler, astlarının görüşlerine çok sık başvurMAMAk konusunda dikkatlidirler.	1	2	3	4	5
25.	… iş stresi yoğun ve ağırdır.	1	2	3	4	5
26.	… birçok çalışan işyerinde kendini asla gergin ve stresli hissetmez.	1	2	3	4	5
27.	… işyerine sadakat bir erdem olarak algılanır.	1	2	3	4	5

[11] "İnovasyon", pazarlanabilir, yeni veya geliştirilmiş ürün, yöntem veya hizmeti ve bunlara ulaşmak için ortaya konan dönüştürme sürecini ifade eder. *(TÜSİAD 2004, Ulusal İnovasyon Sistemi Raporu)*

1= HİÇ katılMIyorum	2= KatılMIyorum	3= Ne katılıyorum, ne katılmıyorum	4= Katılıyorum	5= TAMAMEN katılıyorum

E. Şirketimizde …	*(E bölümündeki tüm unsurların başında gelen ifadedir.)*					
28.	… birçok çalışan, emekliliğine kadar şirketimizde çalışmaya devam eder.	1	2	3	4	5
29.	… çalışan kıdemi (ortalama çalışma süresi) uzundur.	1	2	3	4	5
30.	… yeniliklere karşı direnç hakimdir.	1	2	3	4	5
31.	… çalışma kuralları çok katıdır ve titizlikle uygulanır.	1	2	3	4	5
32.	… "ben" değil "biz" öne çıkar.	1	2	3	4	5
33.	… çalışanlar, bir aile bireyi olarak görülür ve korunup kollanırlar.	1	2	3	4	5
34.	… işe yeni başlayan her çalışan sahiplenilip gözetilir.	1	2	3	4	5
35.	… yöneticiler ve amirler, sadık çalışanları korur ve kollarlar.	1	2	3	4	5
36.	… ekibin (takım,grup, vb.) iyiliği ve ödüllendirilmesi, bireysel ödüllendirmeden daha önemlidir.	1	2	3	4	5
37.	… bir ekip oyuncusu ve ekibin bir parçası olmaya değer verilir.	1	2	3	4	5
38.	… bir ekibe dahil olarak çalışmak, bireysel çalışmadan daha değerli ve önemlidir.	1	2	3	4	5
39.	… ekip ihtiyaç ve istekleri, bireysel ihtiyaç ve isteklerin üstündedir.	1	2	3	4	5
40.	… ekibin başarısı, bireysel başarıdan daha önemlidir.	1	2	3	4	5
41.	… ekip kararları, bireysel kararlardan daha önemlidir.	1	2	3	4	5
42.	… iş yapış şekillerindeki değişiklik kararlarını, yöneticiler ve çalışanlar birlikte alırlar.	1	2	3	4	5
43.	… çalışanlar, yapacakları işler konusunda karar alırken çalışma arkadaşlarının görüşlerini asla dikkate alMAZlar.	1	2	3	4	5
44.	… çalışanlar, hiyerarşik düzenden bağımsız olarak, birbirlerinin görüş ve önerilerini dikkate alırlar.	1	2	3	4	5
45.	… çalışanlar arasında rekabet, kabul görmez.	1	2	3	4	5
46.	… hedeflerle yönetim sistemi takip edilmektedir.	1	2	3	4	5

F. Geçmiş <u>üç yılda</u>, şirketimiz … *(F bölümündeki tüm unsurların başında gelen ifadedir.)* *Not: Üç yıldan daha az bir zamandır bu şirkette çalışıyorsanız lütfen toplam çalıştığınız süreyi değerlendiriniz.*						
1.	… yeni iş kollarında farklı şirketler kurmuş veya mali açıdan desteklemiştir.	1	2	3	4	5
2.	… yarı bağımsız ve/veya tam bağımsız alt şirketler/iş birimleri kurmuştur.	1	2	3	4	5
3.	… birçok yeni iş koluna girmiştir.	1	2	3	4	5
4.	… mevcut iş kolundaki performansını arttırmaktansa yeni sektörlere girmeyi tercih etmiştir.	1	2	3	4	5
5.	… faaliyet gösterilen sektörden şirket(ler) satın almıştır.	1	2	3	4	5
6.	… <u>farklı</u> sektörlerden şirket(ler) satın almıştır.	1	2	3	4	5
7.	… <u>yurtiçinde</u> yeni pazarlara girmiştir.	1	2	3	4	5
8.	… <u>yurtdışında</u> yeni pazarlara girmiştir.	1	2	3	4	5
9.	… mevcut pazarlardaki boşlukları bulmuş ve değerlendirmiştir.	1	2	3	4	5
10.	… faaliyet gösterilen iş kollarına ait rekabet stratejilerini değiştirmiştir.	1	2	3	4	5
11.	… faaliyet gösterilen ve rekabet edilen iş kollarını yeniden tanımlamıştır.	1	2	3	4	5
12.	… iş kollarının verimliliğini arttırmak amacıyla değişik programları devreye almıştır.	1	2	3	4	5

1= HİÇ katılMIyorum	2= KatılMIyorum	3= Ne katılıyorum, ne katılmıyorum	4= Katılıyorum	5= TAMAMEN katılıyorum

F. Geçmiş üç yılda, şirketimiz …	*(F bölümündeki tüm unsurların başında gelen ifadedir.)*					
13.	… farklı iş kolları arasındaki koordinasyon ve iletişimi artırmak amacıyla reorganizasyon çalışmasına gitmiştir.	1	2	3	4	5
14.	… kar edemeyen bazı iş kollarından çıkmıştır.	1	2	3	4	5
15.	… yaratıcılık ve yenilikçiliği tetiklemek amacıyla yenilikçi insan kaynakları uygulamalarını devreye almıştır.	1	2	3	4	5
16.	… yenilikçiliği teşvik etmek amacıyla, organizasyon yapısında önemli değişikliklere gitmiştir.	1	2	3	4	5
17.	… sektöre yeni iş kavram ve uygulamalarını getirme konusunda öncü şirket olmuştur.	1	2	3	4	5
18.	… yeni teknolojileri geliştirip pazara sunma konusunda öncü şirket olmuştur.	1	2	3	4	5
19.	… yeni ürün/hizmetleri pazara sunma konusunda öncü şirket olmuştur.	1	2	3	4	5
20.	… yeni pazarlarda satışa sunmak üzere radikal anlamda yeni ürün/hizmetler yaratmıştır.	1	2	3	4	5
21.	… mevcut pazarlarda satışa sunmak üzere radikal anlamda yeni ürün/hizmetler yaratmıştır.	1	2	3	4	5
22.	… başlıca rakiplerden çok daha fazla patent/tescilli marka/faydalı model/coğrafi işaret almıştır.	1	2	3	4	5
23.	… ürün odaklı ARGE faaliyetlerine sektördeki diğer şirketlerin çok üstünde yatırım yapmıştır.	1	2	3	4	5
24.	… yeni ürün/hizmet geliştirme çabalarına yatırım yapmıştır.	1	2	3	4	5
25.	… süreç (proses) odaklı ARGE faaliyetlerine sektördeki diğer şirketlerin çok üstünde yatırım yapmıştır.	1	2	3	4	5
26.	… diğer şirketlerce geliştirilmiş üretim/hizmet teknolojilerini takip edip uyarlamaktansa, yeni ve özgün süreçler geliştirmiştir.	1	2	3	4	5

III. Bu bölümde, son üç yılı dikkate alarak, ŞİRKETİNİZİN, sol sütunda tekil, sağ sütunda görece performansını aşağıdaki ölçeğe uygun olarak derecelendirerek, rakamlar üzerinde işaretleyeniz.

1= Yetersiz	2= Kötü/Ortalamanın altı	3= Orta/Ortalama	4= İyi/Ortalamanın üstü	5= Çok iyi/Yüksek

	Şirketinizin Tekil (Hedeflere Göre) Geçmiş Performansı					Başarı Kriteri	Şirketinizin Görece (Rakiplere Göre) Geçmiş Performansı				
1.	1	2	3	4	5	Uzun dönemli karlılık	1	2	3	4	5
2.	1	2	3	4	5	Faaliyet Karlılığı (Faaliyet karı/Toplam satışlar)	1	2	3	4	5
3.	1	2	3	4	5	Özsermaye Karlılığı (Net kar/Özsermaye)	1	2	3	4	5
4.	1	2	3	4	5	Toplam satışlar	1	2	3	4	5
5.	1	2	3	4	5	Toplam satışlardaki *büyüme*	1	2	3	4	5
6.	1	2	3	4	5	Pazar payı	1	2	3	4	5
7.	1	2	3	4	5	Pazar payındaki *büyüme*	1	2	3	4	5
8.	1	2	3	4	5	Yaratılan istihdam	1	2	3	4	5
9.	1	2	3	4	5	Yaratılan istihdamdaki *büyüme*	1	2	3	4	5
10.	1	2	3	4	5	Toplum üzerindeki imaj ve etki	1	2	3	4	5
11.	1	2	3	4	5	Müşteri memnuniyeti	1	2	3	4	5
12.	1	2	3	4	5	Tedarikçi memnuniyeti	1	2	3	4	5
13.	1	2	3	4	5	Çalışan memnuniyeti	1	2	3	4	5

ŞİRKET BİLGİLERİ:

1. Şirketimiz (.....) yılında kurulmuştur.

2. Şirketimizde (.....) çalışan istihdam edilmektedir.

3. Personel kıdem ortalaması (……) yıl, yönetici personel kıdem ortalaması (……..) yıldır.

4. Sermaye Dağılımı: Kamu (%.....) Özel (%.....) - Yerli (%.....) Yabancı (%.....)

5. Lütfen şirketinizin temel faaliyet alanının (satışlarınızın % 70 ve daha fazlasını kapsayan) dahil olduğu sektörü yazınız……

6. Bu sektör genel anlamda bir yüksek teknoloji sektörü kabul edilebilir mi? Evet (.....) Hayır (.....)

7. Şirketinizde ayrı bir ARGE bölümü var mıdır? Evet (.....) Hayır (.....)

PERFORMANS BİLGİLERİ:

1. Geçmiş üç yılda pazara sunulan yeni ürün/hizmetlerin sayısı kaçtır?
0 (.....) 1-5 (…….) 6-10 (…….) 11-15 (…….) >15 (…….) UD[12] (…….)

2. İçinde bulunduğumuz mali yılda pazara sunulması planlanan yeni ürün/hizmetlerin sayısı kaçtır?
0 (.....) 1-3 (…….) 4-6 (…….) 7-9 (…….) >9 (…….) UD (…….)

3. Geçmiş üç yılda şirketinizce geliştirilen ve pazara sunulan yeni süreçlerin ve üretim teknolojilerinin sayısı kaçtır?
0 (.....) 1-3 (…….) 4-6 (…….) 7-9 (…….) >9 (…….) UD (…….)

4. İçinde bulunduğumuz mali yılda pazara sunulması planlanan yeni süreçlerin ve üretim teknolojilerinin sayısı kaçtır?
0 (.....) 1-2 (…….) 3-4 (…….) 5-6 (…….) >6 (…….) UD (…….)

5. Üç yıl öncesine kadar ürün/hizmet sunulmayıp da, bugün ürün/hizmet sunulan yeni müşterilerin sayısı kaçtır?
0 (.....) 1-5 (…….) 6-10 (…….) 11-15 (…….) >15 (…….) UD (…….)

6. Şirketiniz içerisinde bir yaratıcı ve/veya yenilikçi fikrin hayata geçirilebilmesi için aşılması gereken adım sayısı kaçtır?
0 (.....) 1 (…….) 2 (…….) 3 (…….) >3 (…….) UD (…….)

7. ARGE harcamalarının toplam ciroya oranı nedir?
0 (.....) %1 < (…….) %1-3 (…….) %4-6 (…….) > %7-9 (…….) UD (…….)

8. Son üç yılda sahip olunan patent/faydalı model/tescilli marka/coğrafi işaret sayısı kaçtır?
0 (.....) 1-3 (…….) 4-6 (…….) 7-9 (…….) >9 (…….) UD (…….)

9. Son üç yıllık ihracat satışlarının son üç yıllık toplam satışlara oranı nedir?
0 (.....) %1 < (…….) %1-10 (…….) %11-20 (…….) > %20-30 (…….) > %30 (….)

10. Geçmiş üç yılda şirketinizce devreye alınan idari, yönetsel ve insan kaynaklarıyla ilgili yeni programların sayısı kaçtır?
0 (.....) 1-3 (…….) 4-6 (…….) 7-9 (…….) >9 (…….) UD (…….)

11. İçinde bulunduğumuz mali yılda devreye alınması planlanan idari, yönetsel ve insan kaynaklarıyla ilgili yeni programların sayısı kaçtır?
0 (.....) 1-2 (…….) 3-4 (…….) 5-6 (…….) >6 (…….) UD (…….)

12. Üç yıl öncesine kadar içinde bulunulmayıp da, bugün içinde bulunulan yeni coğrafi pazarların sayısı kaçtır?
0 (.....) 1-2 (…….) 3-4 (…….) 5-6 (…….) >6 (…….) UD (…….)

13. Son üç yılda gerçekleştirilen birleşme ve/veya satın almaların sayısı kaçtır?
0 (.....) 1 (…….) 2 (…….) 3 (…….) >3 (…….) UD (…….)

14. Son üç yılda şirketinizce kurulan ve/veya mali açıdan desteklenen yeni iş birimi sayısı kaçtır?
0 (.....) 1 (…….) 2 (…….) 3 (…….) >3 (…….) UD (…….)

15. Son üç yılda şirketinizce kurulan yarı bağımsız ve/veya tam bağımsız iş birimi sayısı kaçtır?
0 (.....) 1 (…….) 2 (…….) 3 (…….) >3 (…….) UD (…….)

16. Son üç yılda şirketinizce girilen yeni pazarların (yurt içi ve dışı) sayısı kaçtır?
0 (.....) 1-3 (…….) 4-6 (…….) 7-9 (…….) >9 (…….) UD (…….)

17. Girişimcilik ve yenilikçilik konularında eğitim alan çalışan oranı kaçtır?
0 (.....) %1-20 (…….) %21-40 (…….) %41-60 (…….) > %60 (…….) UD (…….)

!!!!! dikkat !!!!! dikkat !!!!! dikkat !!!!!

LÜTFEN ANKETİ, EKTEKİ POSTA ÜCRETİ ÖDENMİŞ (TAKSELİ) VE ADRESİ BASILMIŞ ZARFA KOYARAK YOLLAYINIZ.

TEŞEKKÜRLER

[12] Uygun Değil

Appendix B.

Items by construct

Hostility

H1 (Khandwalla, 1976)

- Yatırımların ve pazarlama fırsatlarının bol olduğu, hiç stresli olmayan bir çevre.
- Rekabetin şiddetli olduğu, titizlik gerektiren, çok stresli ve saldırgan bir çevre.

- Rich in investments and marketing opportunities; not at all stressful
- Very stressful, exacting, hostile, very hard to keep afloat

H2 (Khandwalla, 1976)

- Kontrol edebildiğimiz ve hatta kendi çıkarlarımıza uygun olarak yönlendirebildiğimiz bir çevre.
- İçinde barındırdığı rekabetçi, politik ve teknolojik güçlere karşı yaptırımlarımızın çok az oranda etkili olabildiği, hükmedilen değil hükmeden bir çevre.

- An environment that my firm can control and manipulate to its own advantage.
- A dominating environment, in which my firm's initiatives count for very little against the tremendous competitive, political, or technological forces

H3 (Khandwalla, 1976)

- Varlığımıza yönelik tehditler içermeyen, güvenli, iyi performansın sürdürülmesine uygun bir çevre.
- Yanlış bir adımın şirketin yok olmasına yol açabileceği, çok riskli ve tehditkar bir çevre.

- Very safe; little threat to survival and well-being of the firm
- Very risky; a false step can mean my firm's undoing.

Dynamism

D1 (Miller and Friesen, 1978)

- Rakiplerin davranışlarını tahmin edebilmenin oldukça kolay olduğu bir çevre.
- Rakiplerin davranışlarını tahmin edebilmenin oldukça zor olduğu bir çevre.

- Competitive actions are difficult to predict.

D2 (Miller and Friesen, 1978)

- Müşteri gereksinim ve tercihlerini tahmin edebilmek oldukça kolay olduğu bir çevre.
- Müşteri gereksinim ve tercihlerini tahmin edebilmenin oldukça zor olduğu bir çevre.

- Customer requirements and preferences are hard to forecast.

D3 (Khandwalla, 1976)

- Genel anlamda, gelecekle ilgili tahminde bulunmanın oldukça kolay olduğu, çok tahmin edilebilir nitelikte bir çevre.
- Tahmin edilebilir nitelikte olmayan, değişimlerin yönünü ve doğasını öngörebilmenin oldukça zor olduğu bir çevre.

- The environment is very predictable. It is very easy to forecast the future sate of affairs in the environment.
- The environment is very unpredictable. It is very hard to anticipate the nature or direction of changes.

Items Dropped:

D4 (Khandwalla, 1976)

- *Oldukça durağan, hatta daralan bir pazar yapısına şahit olunabilen bir çevre.*
- *Mevcut pazarların hızla genişlediği ve yenilerinin hızla ortaya çıktığı bir çevre.*

- *Very stagnant or even shrinking markets have been experienced.*
- *A rapid expansion of old markets and the emergence of new ones have been experienced.*

D6 (Miller and Friesen, 1978)

- *Ürünlerin, uzun süre yaşayıp popüler kaldığı bir çevre.*
- *Ürünlerin, hızla demode olup popülerliğini kaybettiği bir çevre.*

- *Products rapidly become obsolete.*

Technological Complexity

T1 (Khandwalla, 1977)

- Yüksek oranda teknolojik birikim ve yetkinlik gerektirmeyen bir çevre.
- Teknolojik anlamda çok gelişmiş ve karmaşık bir çevre.

- An environment demanding little in the way of technological sophistication
- Technologically, a very sophisticated and complex environment

T2 (Khandwalla, 1977)

- Neredeyse hiç ARGE faaliyeti yürütülmeyen bir sektör.
- Çok yüksek oranda ARGE odaklı bir sektör.

- Virtually no R&D in industry (e.g., bakery, publishing, real estate)
- Extremely R&D oriented industry (e.g., telecommunications, space, drugs)

T3 (Miller and Friesen, 1978)

- Teknoloji değişim hızının oldukça yavaş olduğu bir çevre.
- Yeni teknolojik gelişmelerin hızla devreye girdiği, teknoloji değişim hızının çok yüksek olduğu bir çevre.

- New technological developments suddenly take place. The speed of technological change is very fast.

Collectivism

IC1 (Morris et al., 1993)

- "Ben" değil "biz" öne çıkar.
- "I" not "We" holds sway

IC5 (Dorfman and Howell, 1988)

- Ekibin (takım, grup, vb.) iyiliği ve ödüllendirilmesi, bireysel ödüllendirmeden daha önemlidir.
- Group welfare is more important than individual rewards.

IC6 (Zahra, Hayton, Salvato, 2004)

- Bir ekip oyuncusu ve ekibin bir parçası olmaya değer verilir.
- Values being a team player.

IC7 (Chen et al., 1998)

- Bir ekibe dahil olarak çalışmak, bireysel çalışmadan daha değerli ve önemlidir.
- Working with a group is better than working alone.

IC8 (Morris et al., 1993)

- Ekip ihtiyaç ve istekleri, bireysel ihtiyaç ve isteklerin üstündedir.
- Individual needs are put above group needs

IC9 (Dorfman and Howell, 1988)

- Ekibin başarısı, bireysel başarıdan daha önemlidir.
- Group success is more important than individual success.

IC10 (Yilmaz et al., 2005)

- Ekip kararları, bireysel kararlardan daha önemlidir.
- Group decisions are more important than individual decisions.

Items Dropped:

IC2 (Robert, Wasti, 2002)

- *Çalışanlar, bir aile bireyi olarak görülür ve korunup kollanırlar.*
- *Employees are taken care of like members of a family.*

IC3 (Robert, Wasti, 2002)

- *İşe yeni başlayan her çalışan sahiplenilip gözetilir.*
- *Once someone is hired, the organization takes care of that person's overall welfare.*

IC4 (Robert, Wasti, 2002)

- *Yöneticiler ve amirler, sadık çalışanları korur ve kollarlar.*
- *Management and supervisors are protective of and generous to loyal workers.*

IC11 (Robert, Wasti, 2002)

- *İş yapış şekillerindeki değişiklik kararlarını, yöneticiler ve çalışanlar birlikte alırlar.*
- *Decisions about changes in work methods are taken jointly by supervisors and employees.*

IC12 (Yilmaz et al., 2005)

- *Çalışanlar, yapacakları işler konusunda karar alırken çalışma arkadaşlarının görüşlerini asla dikkate almazlar.*
- *People should pay absolutely no attention to coworker views when deciding what kind of works to do.*

IC13 (Robert, Wasti, 2002)

- *Çalışanlar, hiyerarşik düzenden bağımsız olarak, birbirlerinin görüş ve önerilerini dikkate alırlar.*
- *Regardless of hierarchical level, employees take each other's views into consideration.*

IC14 (Robert, Wasti, 2002)

- *Çalışanlar arasında rekabet, kabul görmez.*
- *Competition between employees is accepted.*

Power Distance

PD1 (Robbins and Mukerji, 1994)

- Alt kademelerde çalışanlar, örgüt içinde güç kazanamazlar.
- People at lower levels in the organization should not have power in the organization.

PD2 (Sigler, Pearson, 2000)

- Üstler astlarıyla ilişkilerinde, sıklıkla, otorite ve güçlerini kullanırlar.
- It is often necessary for a supervisor to emphasize authority and power when dealing with subordinates.

PD3 (Sigler, Pearson, 2000)

- Yöneticiler ve amirler, iş yerinde astlarıyla sosyalleşmekten kaçınırlar.
- A manager should avoid socializing with his/her subordinates at the job.

PD4 (Sigler, Pearson, 2000)

- Astlar, üstlerinin kararlarını sorgulamazlar.
- Subordinates should not disagree with their manager's decisions.

PD5 (Sigler, Pearson, 2000)

- Yöneticiler ve amirler, zor ve önemli işlerini astlarına aktarmazlar.
- Managers should not delegate difficult and important tasks to subordinates.

PD6 (Sigler, Pearson, 2000)

- Yöneticiler ve amirler, çoğu kararlarını astlarına danışmadan alırlar.
- Managers should make most decisions without consulting with subordinates.

PD7 (Sigler, Pearson, 2000)

- Alt kademelerde çalışanlar, çevrelerinde çalışanlara yönelik önemli kararları alma sorumluluğunu taşımazlar.
- People at lower levels in organizations have a responsibility to make important decisions for people around them.

PD8 (Sigler, Pearson, 2000)

- Yöneticiler ve amirler, astlarının görüşlerine çok sık başvurMAMAk konusunda dikkatlidirler.
- Managers should be careful not to ask the opinions of subordinates too frequently.

Looseness

TL1

- İş tanımları belirli ve özel(spesifik)dir.
- İş tanımları esnek ve geneldir.
- Job descriptions (specific vs. vague).

TL2

- Herkesçe bilinen, açık ve resmi kontrol mekanizmaları mevcuttur.
- Herkesçe bilinmeyen, kapalı, esnek ve gayrı resmi kontrol mekanizmaları mevcuttur.
- Control mechanisms (explicit vs. implicit; formalized vs. informal),

TL3 (Khandwalla, 1976)

- Çalışanların şirket prosedür ve kurallarını takip etmesine büyük önem verilir.
- Şirket prosedür ve kuralları ihlal etmek uğruna bile olsa işin kotarılmasına büyük önem verilir.
- There is a strong emphasis on always getting personnel to follow the formally laid down procedures
- There is a strong emphasis on getting things done even if this means disregarding formal procedures

TL4 (Khandwalla, 1976)

- Birçok faaliyet, resmi ve gelişmiş kontrol mekanizmaları ve bilgi sistemleri aracılığıyla denetlenir.
- Gayrı resmi, sıkı olmayan kontrol mekanizmaları hakimdir. Kişisel ilişkiler ve işbirliği normları belirleyici rol oynar.
- There is tight formal control of most operations by means of sophisticated control and information systems
- There is loose, informal control; heavy independence on informal relationships and norm of cooperation for getting work done

HR based Individualism

IC1

- Eğitim ihtiyaçları karşılıklı diyalog halinde ve uzlaşma ile belirlenir.
- Eğitim ihtiyaçları tek yönlü tarzda belirlenir.

IC3

- Karar alma süreci diyalog temelli ve uzlaşma odaklıdır.
- Karar alma süreci tek yönlü ve bireysel bazlıdır.
- Decision making style (consensual or individual),

IC4

- Hedefler, karşılıklı etkileşim içerisinde, uzlaşma gözetilerek belirlenir.
- Hedefler karşılıklı belirlenmez. Süreç, tek yönlü bir tarzda, hedef koyma/verme şeklinde yürütülür.
- Goal engagement process (dialogue vs. monologue),

IC5

- Sorumluluk dağılımı ekip bazlıdır.
- Sorumluluk dağılımı bireysel bazlıdır.
- Collective or individual responsibility

Items Dropped:

IC2

- *Eğitimler daha çok ekibe özel planlanır ve alınır.*
- *Eğitimler daha çok bireye özel planlanır ve alınır.*
- *Training and development (individual based vs. group based),*

IC6

- *Ödüllendirme mekanizması (ikramiye ve ödül paylaşımı) ekip bazlıdır.*
- *Ödüllendirme mekanizması (ikramiye ve ödül paylaşımı) bireysel bazlıdır.*
- *Reward mechanism (share of bonuses), individual criteria vs. group criteria*

IC7

- *Şirketçe organize edilen sosyalleşme odaklı uygulamalar (piknik, yemek, spor, vb.) kısıtlıdır.*
- *Şirketçe organize edilen sosyalleşme odaklı uygulamalar yoğun ve yaygındır.*
- *Socialization concerned practices (sports teams, company uniforms, etc.), limited vs. extended*

IC8

- *Kariyer gelişiminde, başarı ve performans en temel belirleyici özelliklerdir.*
- *Kariyer gelişiminde, başarı ve performans dışındaki özellikler (sadakat, kıdem, vb.) daha belirleyici rol oynar.*
- *Evaluation and promotion (merit based vs. trait based),*

IC9

- *İşe alma sürecinde, temel değerlendirme ölçütü geçmiş performans ve başarıdır.*
- *İşe alma sürecinde, geçmiş başarı ve performans dışındaki özellikler (referanslar, eğitim, statü, aile, doğuştan gelen birikimler, vb) daha önemli rol oynar.*
- *Recruitment method (merit based vs. trait based),*

HR based Power Distance

PD1

- Açık kapı politikası uygulanmaktadır.
- Üst kademelerle iletişim ve erişimde tarif edilmiş kural ve yollar mevcuttur.

PD2

- Kurallar, her seviyeden tüm çalışanlar için aynı ölçüde ve aynı şekilde geçerlidir.
- Kurallar, farklı seviye, kıdem ve bölümlerdeki çalışanlara göre farklılık gösterebilir.

PD3

- Statüyle ilişkili hak ve imtiyazların (otopark kullanım hakkı, yemekhane kuralları, oda konumları, parasal olmayan sosyal haklar, vb.) dağılımında eşitlik temel alınır.
- Statüyle ilişkili hak ve imtiyazların (otopark kullanım hakkı, yemekhane kuralları, oda konumları, parasal olmayan sosyal haklar, vb.) dağılımında hiyerarşik farklılıklar gözetilir.
- Status concerned compensation practices (parking permit, cafeteria rules, non-monetary social rights, etc.), hierarchical vs. egalitarian

PD5

- İnsan kaynakları uygulamaları eşitlik gözetilerek planlanır ve yürütülür.
- İnsan kaynakları uygulamaları hiyerarşik farklılıklar dikkate alınarak planlanır ve yürütülür.
- Decision making structure or other practices (egalitarian vs. hierarchical)

Items Dropped:

PD4

- *En alt ile en üst kademenin ücretleri arasındaki fark oldukça düşüktür.*
- *Ücretlendirmede an alt ile en üst kademe arasında büyük farklılıklar mevcuttur.*
- *Compensation practices (high vs. small ranges)*

PD6

- *İnsan kaynakları uygulamaları tek elden ve merkezi olarak yürütülür.*
- *İnsan kaynakları uygulamaları kişi ve birimler arasında farklı şekillerde yürütülmektedir.*
- *Decision making structure or other practices (centralized vs. decentralized)*

PD7

- *Eğitimler, merkezi olarak belirlenir.*
- *Eğitimler, merkezden bağımsız olarak/yerel belirlenir.*

Proactivity

P1 (Covin & Slevin, 1989)

- Çok nadir olarak, yeni ürün/hizmetlerin, üretim teknolojilerinin ve idari/teknik yeniliklerin pazara sunulmasında öncü şirket rolünü üstlenir.
- Çok sık olarak, yeni ürün/hizmetlerin, üretim teknolojilerinin ve idari/teknik yeniliklerin pazara sunulmasında öncü şirket rolünü üstlenir.
- Is very seldom the first business to introduce new products/services, operating technologies, administrative techniques, etc.
- Is very often the first business to introduce new products/services, operating technologies, administrative techniques, etc.

P2 (Covin & Slevin, 1989)

- Genel olarak rakipleri takip eder ve onların hamlelerine cevap verir.
- Genel olarak rakiplerin daha sonra takip edeceği, yeni ve öncü uygulamaları başlatır.
- Typically responds to actions which competitors initiate
- Typically initiates actions which competitors then respond to.

P3 (Lumpkin and Dess, 2001)

- Yeni ürün ve fikirlerin pazara sunumunda büyük oranda rakipleri ve "lideri" takip etme eğilimindedir.
- Yeni ürün ve fikirlerin pazara sunumunda büyük oranda rakiplerin önünde, öncü olma eğilimindedir.
- In general the top managers of my firm have a strong tendency to "follow the leader" in introducing new products or ideas
- In general the top managers of my firm have a a strong tendency to be ahead of other competitors in introducing novel ideas or products

Competitive Aggressiveness

CA1 (Khandwalla, 1976)

- Hukukun ve kuralların elverdiği ölçüde işbirliğini ve "beraber var olma" felsefesini takip eder.
- "Rakibi yok et" düsturu ile ve çok saldırgan bir tarzda hareket eder.
- Typically seeks a philosophy of cooperative coexistence with rival firms within the limits of the law.
- Typically adopts a very competitive, "undo-the-competitors" posture.

CA2 (Lumpkin and Dess, 2001)

- Rakiplerden iş/müşteri kapmak için özel bir çaba göstermez.
- Fazlasıyla rekabetçi ve çok saldırgandır.
- Is very aggressive and intensely competitive
- Makes no special effort to take business from the competition

CA3 (Venkatraman, 1989)

- Pazar payı kapmak için özel bir çaba göstermez.
- Pazar payı kapmak ve pazarda bir numara olmak uğruna karlılıktan bile vazgeçer.
- Typically sacrifices profitability to gain market share.

Autonomy

A1 (Shane, Venkataraman, & MacMillan, 1995)

- Bir yeniliğin (inovasyon) benimsenmesini kolaylaştırmak amacıyla, personel prosedür ve kısıtları devre dışı bırakılabilir.
- Certain personnel procedures are allowed to be bypassed to get people committed to an innovation.

A2 (Shane, Venkataraman, & MacMillan, 1995)

- Bir yeniliğe kaynak yaratmak amacıyla, bütçe/harcama prosedür ve kısıtları devre dışı bırakılabilir.
- Certain budgetary procedures are allowed to be bypassed to get funds for an innovation.

A3 (Shane, Venkataraman, & MacMillan, 1995)

- Yenilik üstünde çalışanlar, yeniliği geliştirirken standart işletme prosedürlerini devre dışı bırakabilirler.
- It is possible for the people working on an innovation to bypass standard operating procedures to develop the innovation.

Item Dropped:

A4 (Shane, Venkataraman, & MacMillan, 1995)

- Yenilik üstünde çalışanlar, yeniliği geliştirirken üstlerine danışmadan karar alabilirler.
- It is possible for people working on an innovation to make decisions without referring them to higher level officials.

Innovativeness

I1 (Covin & Slevin, 1989)

- Ürün/hizmet bazındaki değişiklikler daha çok ufak çaplı iyileştirmeler şeklinde olmuştur.
- Ürün/hizmet bazındaki değişiklikler genellikle dramatik, büyük çaplı değişimler şeklinde olmuştur.
- Changes in product/service lines have been mostly of a minor nature
- Changes in product/service lines have usually been dramatic

I2 (Covin & Slevin, 1989)

- Hiç yeni ürün/hizmet pazarlanmamıştır.
- Çok fazla yeni ürün/hizmet pazarlanmıştır.
- No new line of product or services have been marketed.
- Very many new lines of products or services have been marketed.

I3 (Covin & Slevin, 1989)

- Üst yönetim, denenmiş ve başarılı olmuş ürün ve hizmetleri pazara sunmayı tercih etmiştir.
- Üst yönetim, ARGE faaliyetlerine, teknolojik liderliğe ve yenilikçiliğe önem vermeyi tercih etmiştir.
- The top managers favor a strong emphasis on the marketing of true and tried products or services
- The top managers favor a strong emphasis on R&D, technological leadership, and innovations

Risk Taking

RT1 (Covin & Slevin, 1989)

- Üst yönetimin düşük riskli (normal ve kesin geri dönüş oranına sahip) projelere güçlü bir yatkınlığı vardır.
- Üst yönetimin, yüksek riskli (yüksek geri dönüş oranlarını yakalama şansı bulunan) projelere güçlü bir yatkınlığı vardır.
- The top managers have a strong proclivity for low-risk projects (with normal and certain rates of return)
- The top managers have a strong proclivity for high-risk projects (with chances of very high rates of return)

RT2 (Covin & Slevin, 1989)

- Üst yönetim, en iyi davranış biçiminin faaliyet gösterdiğimiz çevreyle de ilişkili olarak, küçük ve yavaş adımlarla ilerlemek olduğuna inanır.
- Üst yönetim, şirket hedeflerine ulaşmak için, faaliyet gösterdiğimiz çevreyle de ilişkili olarak, gözüpek ve uzun vadeli davranışların gerektiğine inanır.
- The top managers believe that owing to the nature of the environment, it is best to explore it gradually via timid, incremental behavior
- The top managers believe that owing to the nature of the environment, bold, wide-ranging acts are necessary to achieve the firm's objectives

RT3 (Covin & Slevin, 1989)

- Belirsizlik içeren durumlarda karar verilirken, olası zararı en aza indirmek amacıyla, temkinli, "bekle ve gör" yaklaşımı uygulanır.
- Belirsizlik içeren durumlarda karar verilirken, olası yüksek getiriyi en üst düzeye çıkarmak amacıyla, cesur ve saldırgan bir tutum takınılır.
- Typically a cautious, "wait-and-see" posture in order to minimize the probability of making costly decisions is adopted, when confronted with decision-making situations involving uncertainty.
- Typically a bold, aggressive posture in order to maximize the probability of exploiting potential opportunities is adopted, when confronted with decision-making situations involving uncertainty.

Management Support

MS1 (Hornsby, Kuratko, and Zahra, 2002)

- Çalışanların, yenilikçi (şnovasyon) proje ve fikirlerine mali destek bulabilecekleri farklı seçenekler mevcuttur.
- There are several options for individuals to get financial support for their innovative projects and ideas.

MS2 (Hornsby, Kuratko, and Zahra, 2002)

- İyi bir fikirle gelen çalışanlara, genellikle, fikri geliştirmeleri için ihtiyaç duyacakları zaman sağlanır.
- A worker with a good idea is often given free time to develop that idea.

MS3 (Hornsby, Kuratko, and Zahra, 2002)

- Çalışanlar, yeni proje fikirleri geliştirebilmek için diğer bölümlerdeki çalışanlarla işbirliğine gitmeleri yönünde cesaretlendirilirler.
- People are encouraged to cooperate with workers in other departments about ideas for new projects.

MS4 (Hornsby, Kuratko, and Zahra, 2002)

- Yeni ve yenilikçi fikirler, genellikle, terfi veya diğer maddi tanıma yöntemleri ile ödüllendirilir.
- Promotion usually follows the development of new and innovative ideas.

MS7 (Hornsby, Kuratko, and Zahra, 2002)

- İşler öyle düzenlenmiştir ki, çalışanların yeni fikirler geliştirmek için gerekli zamanı vardır.
- Jobs are structured so that work loads are too heavy to spend time on developing new ideas.

MS8 (Hornsby, Kuratko, and Zahra, 2002)

- Üst (tepe) yönetim, çalışanların öneri ve fikirlerine açıktır.
- Top management is receptive to employee ideas and suggestions.

MS9 (Zahra, 1991)

- Yöneticiler ve amirler, yaratıcılık ve yenilikçilik teknikleri konularında eğitim alırlar.
- Supervisors and managers are trained in creativity and innovation techniques.

Items Dropped:
MS5 (Hornsby, Kuratko, and Zahra, 2002)

- *Başarılı yenilikçilik projelerine imza atan çalışanlar, standart ödüllendirme sistematiği dışında da ödüllendirilir.*
- *Individuals with successful innovative projects receive additional reward and compensation for their ideas and efforts beyond the standard reward system.*

MS6 (Zahra, 1991)

- *Yenilikçilik ve kurumsal gelişimden sorumlu bölüm veya birimler mevcuttur.*
- *There are units or departments responsible for innovation and corporate development.*

CE Venturing

V1 (Zahra, 1996)

- Yeni iş kollarında farklı şirketler kurmuş veya mali açıdan desteklemiştir.
- Has established or sponsored several new ventures.

V2 (Simsek, forthcoming)

- Yarı bağımsız ve/veya tam bağımsız alt şirketler/iş birimleri kurmuştur.
- Has created new semi- and autonomous units

V3 (Zahra, 1996)

- Birçok yeni iş koluna girmiştir.
- Has entered many new industries.

V4 (Zahra, 1996)

- Mevcut iş kolundaki performansını arttırmaktansa yeni sektörlere girmeyi tercih etmiştir.
- Has focused on improving the performance of its current business, rather than entering new industries.

Items Dropped:
V5

- *Faaliyet gösterilen sektörden şirket(ler) satın almıştır.*
- *Has acquired many companies from the same industry.*

V6 (Zahra, 1996)

- *Farklı sektörlerden şirket(ler) satın almıştır.*
- *Has acquired many companies from the same industry.*

V7 (Simsek, forthcoming)

- *Yurtiçinde yeni pazarlara girmiştir.*
- *Has entered new local markets.*

V8 (Zahra, Neubaum, Huse, 2000)

- *Yurtdışında yeni pazarlara girmiştir.*
- *Has entered new foreign markets*

V9 (Simsek, forthcoming)

- *Mevcut pazarlardaki boşlukları bulmuş ve değerlendirmiştir.*
- *Has found new niches in current markets.*

CE Strategic Renewal

SR2 (Zahra, 1996)

- Faaliyet gösterilen ve rekabet edilen iş kollarını yeniden tanımlamıştır.
- Has redefined the industries in which it competes.

SR3 (Zahra, 1996)

- İş kollarının verimliliğini arttırmak amacıyla değişik programları devreye almıştır.
- Has initiated several programs to improve the productivity of business units.

SR4 (Zahra, 1996)

- Farklı iş kolları arasındaki koordinasyon ve iletişimi artırmak amacıyla reorganizasyon çalışmasına gitmiştir.
- Has reorganized operations to ensure increased coordination and communication among business units.

SR6 (Zahra, Neubaum, Huse, 2000)

- Yaratıcılık ve yenilikçiliği tetiklemek amacıyla yenilikçi insan kaynakları uygulamalarını devreye almıştır.
- Has introduced innovative human resource programs to spur creativity and innovation.

SR7 (Zahra, Neubaum, Huse, 2000)

- Yenilikçiliği teşvik etmek amacıyla, organizasyon yapısında önemli değişikliklere gitmiştir.
- Has changed the organizational structure in significant ways to promote innovation

Items Dropped:
SR1 (Zahra, 1996)

- *Faaliyet gösterilen iş kollarına ait rekabet stratejilerini değiştirmiştir.*
- *Has changed its competitive approach (strategy) for each business units.*

SR5 (Zahra, 1996)

- *Kar edemeyen bazı iş kollarından çıkmıştır.*
- *Has divested several unprofitable business units.*

SR8 (Simsek, forthcoming)

- *Sektöre yeni iş kavram ve uygulamalarını getirme konusunda öncü şirket olmuştur.*
- *Has been first in the industry to introduce new business concepts and practices.*

CE Innovativeness

ICE2 (Zahra, Neubaum, Huse, 2000)

- Yeni ürün/hizmetleri pazara sunma konusunda öncü şirket olmuştur.
- Has been the first company in the industry to introduce new products to the market.

ICE4 (Zahra, Neubaum, Huse, 2000)

- Mevcut pazarlarda satışa sunmak üzere radikal anlamda yeni ürün/hizmetler yaratmıştır.
- Has created radically new products for sale in the company's existing markets.

ICE6 (Zahra, Neubaum, Huse, 2000)

- Ürün odaklı araştırma geliştirme (ARGE) faaliyetlerine sektördeki diğer şirketlerin çok üstünde yatırım yapmıştır.
- Has invested heavily (well above industry average) in cutting edge product-oriented R&D.

ICE7 (Simsek, forthcoming)

- Yeni ürün/hizmet geliştirme çabalarına yatırım yapmıştır.
- Has spent on new product development initiatives.

ICE8 (Zahra, Neubaum, Huse, 2000)

- Süreç (proses) odaklı ARGE faaliyetlerine sektördeki diğer şirketlerin çok üstünde yatırım yapmıştır.
- Has invested heavily (well above industry average) in cutting edge process-oriented R&D.

ICE9 (Zahra, Neubaum, Huse, 2000)

- Yeni ve özgün süreçler geliştirmekten ziyade diğer şirketlerin geliştirmiş bulunduğu üretim/hizmet süreç teknolojilerini takip etmiş ve uyarlamıştır.
- Has copied other companies' process technologies.

Items Dropped:

ICE1 (Zahra, Neubaum, Huse, 2000)

- *Yeni teknolojileri geliştirip pazara sunma konusunda öncü şirket olmuştur.*
- *Has been the first company in the industry to develop and introduce new technologies to the market.*

ICE3 (Zahra, Neubaum, Huse, 2000)

- *Yeni pazarlarda satışa sunmak üzere radikal anlamda yeni ürün/hizmetler yaratmıştır.*
- *Has created radically new products for sale in new markets.*

ICE5 (Zahra, 1996)

- *Başlıca rakiplerden çok daha fazla patent/tescilli marka/faydalı model/coğrafi işaret almıştır.*
- *Has acquired significantly more patents than its major competitors.*

Profitability

FP1 Uzun dönemli karlılık
FP2 Faaliyet Karlılığı (Faaliyet karı/Toplam satışlar)
FP3 Özsermaye Karlılığı (Net kar/Özsermaye)

Growth

FG1 Toplam satışlardaki büyüme
FG2 Pazar payındaki büyüme
FG4 Yaratılan istihdamdaki büyüme

Non-Financial Performance

NF1 Toplum üzerindeki imaj ve etki
NF2 Müşteri memnuniyeti
NF3 Tedarikçi memnuniyeti
NF4 Çalışan memnuniyeti

Appendix C.

Analyses results with CE as a composite variable

Results of regression analysis: Hypothesis 1x

H1x: *A firm's entrepreneurial orientation has a positive direct impact on corporate entrepreneurship*

Dependent Variable	**C. Entrepreneurship**	
	β	**ΔR^2**
Independent Variable		0,219***
Entrepreneurial Orientation (EO)	0,468***	
df	341	
R^2	0.219	
Adjusted R^2	0.216	
F	95,382***	

*- *** p < 0.001; ** p < 0.01; * p < 0.05; † p < 0.10*
- The tolerance statistics are all well above 0,2 and the VIF values are all well below 10, average VIF=1,089.
- Regression weights shown are standardized coefficients obtained at the final step.

Results of regression analysis: Hypothesis 2x

H2x: *A firm's EO serves as a mediating variable between internal and external contextual factors, and corporate innovativeness.*

Dependent Variable	**Corporate Innovativeness**	
	β	**ΔR^2**
Independent Variables		0,191***
Hostility (H)	-0,264***	
Dynamism (D)	0.084	
Technological Complexity (T)	0.075	
Collectivism (IC)	0.035	
High Power Distance (PD)	-0,081	
Looseness (TL)	-0,189***	
Mediating Variable		0,215***
Entrepreneurial Orientation (EO)	0,499***	
df	333	
R^2	0.406	
Adjusted R^2	0.394	
F	32,517***	

		Unstandardized		Stand.		
		B	**Std. Error**	**Beta**	**t**	**Sig.**
Step 1						
	H	-0.209	0.048	-0.252	-4.371	0.000
	D	0.101	0.044	0.137	2.318	0.021
	T	0.118	0.036	0.175	3.268	0.001
	IC	0.073	0.073	0.059	1.001	0.317
	PD	-0.215	0.072	-0.172	-2.973	0.003
	TL	-0.132	0.042	-0.168	-3.138	0.002
Step 2						
	H	-0.218	0.041	-0.264	-5.328	0.000
	D	0.062	0.038	0.084	1.640	0.102
	T	0.050	0.031	0.075	1.591	0.113
	IC	0.044	0.062	0.035	0.700	0.485
	PD	-0.101	0.063	-0.081	-1.608	0.109
	TL	-0.148	0.036	-0.189	-4.096	0.000
	EO	0.613	0.056	0.499	10.985	0.000

*- *** p < 0.001; ** p < 0.01; * p < 0.05; † p < 0.10*
- The tolerance statistics are all well above 0,2 and the VIF values are all well below 10, average VIF=1,089.
- Regression weights shown are standardized coefficients obtained at the final step.

Results of regression analysis: Hypothesis 6x

H6x: *Corporate entrepreneurship is jointly determined by the interaction of entrepreneurial orientation and managerial support mechanisms.*

Dependent Variable **Corporate Entrepreneurship**

	β	ΔR^2
Independent Variable		0,219***
Entrepreneurial Orientation (EO)	0,361***	
Moderating Variable		0,083***
Management Support (MS)	0,307***	
Interaction Variables		0.000
MS X EO	0.004	
df	339	
R^2	0.301	
Adjusted R^2	0.295	
F	48,752***	

	Unstandardized B	Unstandardized Std. Error	Stand. Beta	t	Sig.
Step 1					
EO	0.435	0.045	0.468	9.766	0.000
Step 2					
EO	0.336	0.045	0.361	7.475	0.000
MS	0.292	0.046	0.307	6.348	0.000
Step 3					
EO	0.336	0.045	0.361	7.464	0.000
MS	0.292	0.046	0.307	6.301	0.000
MS X EO	0.005	0.057	0.004	0.089	0.929

*- *** p < 0.001; ** p < 0.01; * p < 0.05; † p < 0.10*
- The tolerance statistics are all well above 0,2 and the VIF values are all well below 10, average VIF=1,089.
- Regression weights shown are standardized coefficients obtained at the final step.

Results of regression analysis: hypothesis 7x

H7x: *Corporate entrepreneurship has a positive direct impact on performance.*

Dependent Variable	**Profitability**		**Growth**		**Non-Fin. Perf.**	
	β	ΔR^2	β	ΔR^2	β	ΔR^2
Control Variables		0.011		0,036*		0.012
Age	0.035		-0,116**		-0,020	
Size	0.032		0.072		-0,064	
Industry	0.067		0.029		0,111†	
Mediating Variable		0,043***		0,097***		0,085***
Corporate Entrepreneurship (CE)	0,215***		0,322***		0,301***	
df	311		305		306	
R^2	0.054		0.134		0.097	
Adjusted R^2	0.042		0.122		0.085	
F	4,373**		11,760***		8,216***	

*- *** p < 0.001; ** p < 0.01; * p < 0.05; † p < 0.10*
- The tolerance statistics are all well above 0,2 and the VIF values are all well below 10, average VIF=1,089
- Regression weights shown are standardized coefficients obtained at the final step.

Results of regression analysis: hypothesis 8x

H8x: *Corporate entrepreneurship serves as a mediating variable between EO and performance.*

Dependent Variable	**Profitability**		**Growth**		**Non-Fin. Perf.**	
	β	**ΔR^2**	**β**	**ΔR^2**	**β**	**ΔR^2**
Control Variables		0.011		0,036**		0.012
Age	0.033		-0,117*		-0,021	
Size	0.020		0.064		-0,079	
Industry	0.066		0.028		0,110*	
Mediating Variables		0,022**		0,065***		0,050***
Corporate Entrepreneurship (CE)	0,171**		0,293***		0,247***	
Independent Variable		0,029**		0,036***		0,046***
Entrepreneurial Orientation (EO)	0.098		0.065		0,121†	
df	306		304		305	
R^2	0.061		0.137		0.108	
Adjusted R^2	0.042		0.123		0.094	
F	3,998**		9,644***		7,403***	

*- *** p < 0.001; ** p < 0.01; * p < 0.05; † p < 0.10*
- The tolerance statistics are all well above 0,2 and the VIF values are all well below 10, average VIF=1,189
- Regression weights shown are standardized coefficients obtained at the final step.

Results of regression analysis: hypothesis 9x

H9x: *Performance is jointly determined by the interaction of increased i. hostility, ii. dynamism, and iii. technological complexity in the perception of environment and corporate entrepreneurship.*

Dependent Variable	**Profitability**		**Growth**		**Non-Fin. Perf.**	
	β	**ΔR^2**	**β**	**ΔR^2**	**β**	**ΔR^2**
Control Variables		0.011		0,036**		0.0123
Age	0.024		-0,132*		-0,030	
Size	0.052		0.089		-0,079	
Industry	0.074		0.034		0,116*	
Independent Variable		0,043***		0,097***		0,085***
Corporate Entrepreneurship (CE)	0,222***		0,330***		0,275***	
Moderating Variables		0,029*		0.014		0.014
Hostility (H)	-0,147*		-0,126		-0,139*	
Dynamism (D)	0.009		0,035*		0.040	
Technological Complexity (T)	-0,085		-0,040		0,103†	
Interaction Variables		0,032*		0,037**		0.022
H X CE	0.056		-0,048		0,149†	
D X CE	0.098		0.087		-0,017	
T X CE	0.076		0,141*		0.090	
df	300		297		298	
R^2	0.115		0.185		0.134	
Adjusted R^2	0.085		0.155		0.102	
F	2,998***		6,149***		4,176***	

*- *** p < 0.001; ** p < 0.01; * p < 0.05; † p < 0.10*

- The tolerance statistics are all well above 0,2 and the VIF values are all well below 10, average VIF=1,428

- Regression weights shown are standardized coefficients obtained at the final step.

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