T.C.
GEBZE TECHNICAL UNIVERSITY
GRADUATE SCHOOL OF SOCIAL SCIENCES

RELATIONSHIPS AMONG GENERIC STRATEGIES, INNOVATION EFFORTS, AMBIDEXTERITY AND FIRM PERFORMANCE

İNANÇ TAHRALI
DOCTORAL THESIS
DEPARTMENT OF BUSINESS ADMINISTRATION

GEBZE
2014

T.C.

GEBZE TECHNICAL UNIVERSITY

GRADUATE SCHOOL OF SOCIAL SCIENCES

RELATIONSHIPS AMONG GENERIC STRATEGIES, INNOVATION EFFORTS, AMBIDEXTERITY AND FIRM PERFORMANCE

İNANÇ TAHRALI

DOCTORAL THESIS

DEPARTMENT OF BUSINESS ADMINISTRATION

THESIS ADVISOR

PROF. DR. LÜTFİHAK ALPKAN

GEBZE

2014

DOKTORA TEZİ JÜRİ ONAY SAYFASI

G.Y.T.E. Sosyal Bilimler Enstitüsü Yönetim Kurulu'nun ...26.11.2014..... tarih ve ..2014../...38..... sayılı kararıyla oluşturulan jüri tarafından 16/12/2014 tarihinde tez savunma sınavı yapılan İnanç TAHRALI'nın tez çalışması İşletme Anabilim Dalında DOKTORA tezi olarak kabul edilmiştir.

JÜRİ

ÜYE
(TEZ DANIŞMANI) :
Prof.Dr. Lütfihak ALPKAN

ÜYE :
Prof. Dr. Bülent SEZEN

ÜYE :
Doç. Dr. Melih Bulu

ÜYE :
Doç. Dr. Selim AREN

ÜYE :
Doç. Dr. Ebru Tümer KABADAYI

ONAY

G.Y.T.E. Sosyal Bilimler Enstitüsü Yönetim Kurulu'nun ...../...../20... tarih ve ...../..... sayılı kararı.

İMZA/MÜHÜR

SUMMARY

The main objective of this thesis is to examine the relationships among generic strategies, combination strategy, innovation efforts, environmental conditions and firm performance in detail. As generic strategies, we deal with low cost and differentiation strategies. Combination strategy is approached as implementing two generic strategies together. Innovation efforts are handled as exploitative, exploratory and ambidextrous innovation efforts. While environmental conditions cover market dynamism and price competition, firm performance is measured with market performance and financial performance.

We concentrate on two research questions. The first question is "what are the antecedents of ambidextrous innovation efforts?". The effects of environmental conditions, generic strategies and combination strategy on innovation efforts are examined depending on the data collected from top managers of 431 firms in Istanbul. With detailed analyses, we achieve four important results: (1) Market dynamism affects both exploratory and exploitative innovation efforts more than price competition does; (2) The effect of differentiation strategy on exploratory innovation is more influential than that of low cost strategy; (3) Low cost strategy influences exploitative innovation efforts more than differentiation strategy does; (4) Combination strategy increases ambidextrous innovation efforts more than either differentiation or low cost strategies do.

Our second research question is "how do the market dynamism and firm size affect the relationship between innovation efforts and firm performance?". We firstly examine the moderator role of market dynamism as a moderator in innovation efforts-market performance relationship, and secondly firm size as a moderator in innovation efforts-financial performance relationship. Empirical findings enrich our knowledge as follows: (1) In low dynamic markets, the most fruitful choice is exploitative innovation for better market performance, while in high dynamic markets, ambidexterity is the best solution. (2) In SMEs, investing in exploration is the right option for better financial performance, while in large firms exploitative innovation is more powerful.

Keywords: Innovation Efforts, Ambidexterity, Generic Strategies

ÖZET

Bu tezin temel amacı, jenerik stratejiler, hibrit strateji, yenilikçilik çabaları, çevresel faktörler ve firma performansı kavramları arasındaki ilişkileri detaylı bir şekilde incelemektir. Çalışmada jenerik stratejiler, düşük maliyet ve farklılaştırma stratejileri olarak ele alınırken, hibrit strateji bu iki jenerik stratejinin eş zamanlı yürütülmesi anlamına gelmektedir. Yenilikçilik çabaları başlığı altında keşifsel, fayda çıkartıcı ve çift yetenekli yenilikçilik çabalarına odaklanılmıştır. Pazar dinamizmi ve fiyat rekabeti kavramları ise çevresel faktörler olarak belirlenmiştir.

Araştırma kapsamında iki temel soruya cevap aranmaktadır. İlk soru "çift yetenekli yenilikçilik çabalarının öncülleri nelerdir?" dir. Bunun için çevresel faktörler, jenerik stratejiler ve hibrit stratejinin yenilikçilik çabaları üzerine olan etkileri incelenmiştir. İstanbul sınırlarındaki 431 firmanın üst düzey yöneticilerinden toplanan verilere dayanarak yapılan detaylı analizler sonucunda 4 önemli bulgu elde edilmiştir: (1) Pazar dinamizmi hem keşifsel hem de fayda çıkartıcı yenilikçilik çabalarını fiyat rekabetinden fazla etkiler; (2) Farklılaştırma stratejisinin keşifsel yenilikçilik çabalarına olan etkisi düşük maliyet stratejisinin etkisinden fazladır; (3) Düşük maliyet, fayda çıkartıcı yenilikçilik çabalarını farklılaştırma stratejisinden daha fazla etkiler; (4) Hibrit strateji, çift yetenekli yenilikçilik çabalarını hem keşifsel hem de fayda çıkartıcı yenilikçilik çabalarından fazla artırır.

Çalışmada üzerinde durulan ikinci araştırma sorusu "Pazar dinamizmi ve firma büyüklüğü, yenilikçilik çabaları ve firma performansı arasındaki ilişkileri nasıl etkiler?" dir. Bunun için pazar dinamizminin yenilikçilik çabaları-pazar performansı, fiyat rekabetinin yenilikçilik çabaları- finansal performans ilişkileri nasıl etkilediği incelenmiştir. Analizler sonucunda şu sonuçlara ulaşılmıştır: (1) Dinamizmin düşük olduğu pazarlarda, iyi bir pazar performansı elde etmek için en iyi alternatif, fayda çıkartıcı yenilikçilik çabalarının yürütülmesi iken dinamizmin yüksek olduğu pazarlarda çift yetenekli yenilikçilik çabaları en uygun seçimdir; (2) Küçük ve orta ölçekli şirketlerde iyi bir finansal performans elde etmek için en iyi alternatif, keşifsel yenilikçilik üzerine odaklanmak iken, büyük şirketlerde fayda çıkartıcı yenilikçilik çabaları daha etkilidir.

Anahtar Kelimeler: Yenilikçilik Çabaları, Çift Yeteneklilik, Jenerik Stratejiler

ACKNOWLEDGMENT

During the challenging doctorate process, many precious people have contributions to my thesis study. First of all, I would like to express my deepest respect and gratitude to my advisor, Prof. Dr. Lütfihak Alpkan, who has encouraged me with his persistent supervision, guidance and in-depth knowledge.

I also would like to thank to Prof. Dr. Bülent Sezen and Associate Prof. Dr. Melih Bulu for their acceptance of being a member of my thesis committee and for their valuable critics and comments that shed light on my study.

Prof. Dr. Alinur Büyükaksoy, the former rector of Gebze Technic University, has directed me to have a PhD degree on Business Administration. Therefore, I want to express my gratitude to him hereby. Besides, the supports and helps of Associate Prof. Dr. Selim Aren and Associate Prof. Dr. Ebru Kabadayı were worthy for me during all my studies.

I am forever grateful to my dear colleagues, Mevlüdiye Güzel (MBA), Alev Koçak Alan (PhD) and Büşra Müceldili (MBA) for their helpful academic suggestions and as well as motivating me with their positive energy during long and onerous doctorate process.

The secret heroes of this thesis are my precious husband, Emin Tahralı, my mother and father with their unlimited patience, sacrifice, latitude and emotional support. Sensing their trust energised me from the beginning to the end. I am honoured of being their family.

And finally, I want to cherish my dear sons, Kerem and Mert Tahralı who are the sources of my inspiration and joy of my life.

CONTENT

ABBREVIATIONS

Abbreviation:		Explanation
SME	**:**	Small and Medium Enterprise

FIGURES

TABLES

1. INTRODUCTION

Nowadays, due to accelerated competitive pressures of marketplace and continuously changing expectations of customers, finding appropriate strategies and efforts to survive is a serious challenge for firms. Herein, innovation efforts gain popularity day by day and become the core of competitiveness (Cantarello et al., 2012). Researchers try to elaborate the characteristics of innovation efforts that are generally classified as two categories *i.e. exploitative and exploratory* (He and Wong, 2004). Exploitative innovation focuses on enhancing efficiency, current competencies, knowledge and capabilities while exploratory innovation is associated with R&D activities, flexibility and developing creative solutions to problems (March, 1991; O'Reilly and Tushman, 2008). Each effort serves distinct purposes. They require different organizational structures, management styles and resources. Because of these differences between exploitation and exploration, early writers (Knott and Posen, 2005; Ebben and Johnson, 2005; Burgelman, 1991) emphasize that firms should give priority to either exploitative innovation efforts to improve current capabilities and strengthen their present position, or exploratory innovation efforts to develop new products addressing customers' future needs. However, in last decades with intensifying competition in almost all sectors, firms are increasingly motivated to implement various innovative efforts towards both overt and latent needs of the customers. Some other studies (March, 1991; Tushman and O'Reilly, 1996; He and Wong, 2004) support the idea of concentrating on both exploitative and exploratory approaches i.e ambidexterity.

Ambidextrous innovation, which refers to pursuing exploitative and exploratory innovation efforts simultaneously (He and Wong, 2004), becomes increasingly prominent. Principally, ambidexterity may cause tension due to different requirements or managerial styles of two seemingly contradictory concepts in terms of resources, structure and implementation. However, researchers still claim that if managed successfully, under different internal or external conditions, this duality may prove fruitfulness (He and Wong, 2004) and provide both alignment of current activities and adaptability to changing environments (Jansen et al., 2005; Alpkan and Aren, 2009; Clercq et al., 2012) leading to a sustainable competitive success. Consequently, understanding the dynamics of ambidextrous innovation efforts come

into prominence in order to transform the tension of ambidexterity approach into advantages. In accordance with this objective, we speculate about the environmental and strategic antecedents of ambidextrous innovation efforts in this thesis.

We firstly analyze the effects of all antecedents mentioned above (market dynamism, price competition, generic strategies) on exploitative and exploratory innovation efforts. We both compare both the impacts of market dynamism and price competition, and the impacts of low cost and differentiation strategies on innovation efforts. Secondly, we observe the effects of combination strategy on ambidextrous innovation efforts. In order to uncover the impacts of combination strategy more deeply, its effect size is compared with that of each generic strategy. Results of these analyses contribute to our understanding of which antecedent affects which effort more.

Further to antecedents of ambidextrous innovation efforts, we also observe the relationships between innovation efforts and firm performance as financial and market performance. In recent literature, the direct impacts of innovation efforts upon market performance (He and Wong, 2004; Liu et al., 2010; Yalçınkaya et al., 2007) and financial performance (Chandrasekaran and Linderman, 2012; Liu et al., 2010; Logman, 2009; Yalçınkaya et al., 2007) have already been approved. Having supported these impacts, many researchers recommend testing moderator role of environmental and organizational factors considering the specific contingency effects of internal and external conditions in these complex relations (Jansen et al., 2005; Raisch and Birkinshaw, 2008; Siren et al., 2012) in order to analyze the relationships between innovation efforts and firm performance deeply.

We know that developing the appropriate strategy, activity or effort under right environmental conditions may positively contribute to firm performance (Jasmand et al., 2012). Although the concept of environmental conditions cover various components, market dynamism seemingly among the most critical ones, directly influences the decisions about innovation activities (Chang and Hughes, 2012; Tsai and Yang, 2013). Indeed, dynamism is a challenge of decision-making under uncertainty and rapid change for every single competitor within the same marketplace. Accordingly, only those who succeed to adapt their activities to the environments can prosper. Firms have already noticed this importance of considering

the level of dynamism in the marketplace when implementing their innovation efforts (Lin et al., 2007). On this basis, investigating whether the interaction between dynamism and innovation efforts can bring customer satisfaction, market share, etc. becomes necessary. On the other hand, internal conditions, especially firm resources, are also detrimental when conducting innovation efforts. Firm size is a general concept representing many related characteristics such as volume of resources, operations, assets, number of managers and employees which may bring economies of scale. This leads us to the question whether the interaction between size and innovation efforts can increase financial benefits.

We aim to present a contingency approach that details the impacts of market dynamism and firm size on innovation efforts-performance relations. More specifically, we try to examine the moderator effect of market dynamism on innovation efforts-market performance relations, and moderator effect of firm size on innovation efforts-financial performance relations. Although the influence of innovation efforts on different aspects of firm performance have already been discussed, analytical and empirical studies on these relationships are limited (Jin et al., 2004) and report fragmented results as they generally focus on the relations between some dimensions of innovation efforts and only one aspect of performance (Günday et al., 2011). In our study, we handle performance in two dimensions naming market and financial performance. So here comes our second question: “how do the environmental conditions and firm size affect the relationship between innovation efforts and firm performance?”.

To sum up, this thesis uncovers the interactions among innovation efforts, competitive strategies, environmental conditions and firm performance with a broad perspective. We try to find the answers to the research questions, “what are the antecedents of innovation efforts?” and “how do the environmental conditions and firm size affect the relationship between innovation efforts and firm performance?”. These two questions are elaborated with two separate conceptual models shown in Figure 3.1 and Figure 4.1 and related hypotheses are detailed in Section 3 and Section 4 one by one.

We collect our data from top managers of 431 firms in Istanbul which is the biggest financial center of Turkey. Accordingly, we think that empirical analyses of this study can be generalized to Turkey.

By empirically examining above-mentioned relations, we contribute to the literature in several ways. The direct influences of market dynamism, price competition, generic strategies and combination strategy on innovation efforts have not been empirically tested before. Emphasizing which environmental condition or generic strategy affects which innovation effort more is also unique to our study. Furthermore, it is important to have examined moderator effects of one external factor (market dynamism) and one internal factor (firm size) on the relations of innovation efforts and performance. We hereby test the universality and limits of the ambidexterity hypothesis under different contingencies in a developing nation setting.

2. THEORETICAL BACKGROUND

In recent literature, keeping profitability ratio of a firm over the industry average is referred as *competitive advantage* (Fleisher and Bensaussan, 2003). Attracting customers in different ways, such as manufacturing the best-made product on the market, improving standardized products, delivering superior service, outscoring rivals with speed of bringing products to markets, and lower costs may also pave the way of competitive advantage (Strickland, 1999). Competitive advantage is the heart of success or failure in the firms because it points to whether the activities in the firm lead to performance goals. Processing orders, assembling products, training employees, implementing innovation efforts are activities of a firm. They are tangible and measurable (Porter, 1985). All activities, which generate cost and create value for customers, form the basis of competitive advantage

In order to achieve a competitive advantage, firms develop different strategies in accordance with the superior value perception of customers. The superior value may be a good product with lower price or a better product that is worth paying more (Strickland, 1999). Taking into account these different perceptions, top management teams focus on strategies for the purpose of a strong competitive advantage in the market (Barney and Hasterley, 2010).

Broadly speaking, strategy can be defined as the way of a firms' positioning in the market so as to go beyond their competitors. A strategy consists of various actions or efforts that serve purposes of meeting the requirements of customers, gaining competition superiority, reorganizing the resources in order to adapt to the new environmental conditions and consequently achieving performance goals (Strickland, 1999). Employing a suitable strategy is critical in order to provide long-term persistency and go beyond the rivals (Santos-Vijande et al., 2012).

Due to the globalization effects, competition level is increasing in almost every sector. The global competitive climate is faster than ever before. Although in the past firms could sustain their competitive advantages by being in the right place in the

right time, today geographic, physical and socio-political barriers are falling down with the innovations in communication, technology, transportation. Thus, new competitors can quickly appear with their new rules and competing approaches. Besides, with the global competition, understanding competitors and their business contexts becomes more and more important (Porter, 1985). The complexity and speed is increasing day by day. Infrastructures of communication and information technologies change rapidly and get more speedy than human abilities ever before. While speed increases every day, in-depth understanding of environmental conditions becomes the crucial point of success. Considering the environmental conditions, evolvement of the firm and its position efficiently and effectively are the main objectives of competitive analysis (Porter, 1985).

Appropriate competitive strategies decided by top management team certainly establish a profitable and sustainable position for a firm (Porter, 1985). Therefore, various typologies of competitive strategy are proposed in literature (Miles and Snow, 1978; Porter, 1980, 1985; Garrigos-Simon et al., 2005). However, the most popular and the most cited one is Porter's typology (1980; 1985) known as generic strategies. His contribution has exactly a deep impact on business theory.

2.1 Generic Strategies

According to Porter (1985), firms can achieve competitive advantage through basically two generic strategies namely low cost and differentiation, each of which involves quite different routes to competitive advantage.

2.1.1 Low Cost Strategy

Porter (1980) identifies low cost strategy with terms of "*aggressive construction of efficient-scale facilities, vigorous pursuit of cost reductions from experience, tight cost and overhead control, avoidance of marginal customer accounts, and cost minimization in areas like R&D, service, sales force, advertising, etc*." The main idea of this strategy is generating products or services possibly at the most competitive price. The most competitive price means providing lower costs compared to competitors but not the absolute lowest costs (Strickland, 1999).

Firms with low cost strategy carry out innovations, through limited, on fairly standardized, no-frill products. As they are not required to be pioneer of the industry, they generally intend current customers and focus on increasing efficiency (Hill and Jones, 2008). However, this does not mean that, low cost strategy requires ignoring quality, design and service factors. This strategy facilitates keeping profit margins in an appropriate level because of low prices (Acquaah and Yasai-Ardekani, 2008).

Benefiting from economies of scale and learning curve is important for low cost strategy. Whenever the production volume increases, average costs per unit of production decrease. This cost advantage is called *economies of scale*. As for *high production volume*, it can be achieved by (a) using specialized machines, (b) building larger plants, (c) increasing employee specialization (Barney and Hesterly, 2010). In this context, being a high-volume producer is a way of providing sustainable low cost strategy (Rea and Kerzner, 1997; Peng, 2008; Balsam et al, 2011). On the other hand, learning curve determines the graphical representation of increment of firms' learning the ways of achieving efficiency and productivity with experience. This learning process results in cost reduction. Consequently, economies of scale and learning curve are directly related to low cost strategy.

The core requirement of the success of low cost strategy is price sensitivity in the market (Day (1984). In other words, low cost is an appropriate competitive strategy in markets where rivals compete on price (Strickland, 1999). Besides, analyzing industrial-environmental conditions and firms' structures are also relevant to this strategy. Low cost strategy is associated with (1) *mature industries* -characterized with slow growth, more sophisticated buyers, shifting to cost and service, profitable shrinks- (Murray, 1988), (2) *environmental stability* -characterized with low market dynamism and efficiency priority- (Porter, 1980; Ward et al, 1996), *centralization* -characterized with decisions which are rendered at the top and cascaded down the organization- and *bureaucratization* -characterized with powerful control mechanisms, stable procedures- (Ward et al, 1996).

Pursuing a successful low cost strategy may be possible through various ways such as achieving lower relative manufacturing and distribution channel costs (Philips et al. 1983), providing capacity utilization and production automation (Miller 1986), tightly controlling costs (Gupta, 1987) and redesigning the value chain (Porter, 1985).

Value chain is developed in order to uncover the activities of a firm that forms a basis for its competitive advantage. All activities are divided into two main categories, pimary and supportive activities.

Sub-categories of primary activities and their explanations are as follows:

- Inbound logistics – not only receive and store, but also to distribute raw materials internally.
- Operations – to transform inputs into products or services.
- Outbound logistics – to store and distribute products.
- Marketing and sales – to persuade customers for purchasing.
- Services – to support customers after purchasing.

Sub-categories of supportive activities and their explanations are as follows:

- Infrastructure – organization's structure, culture, control systems, etc of organization.
- Human resource management – motivating, recruiting, training, rewarding employee.
- Technological development – managing and processing information to enhance value-creating.
- Procurement - purchasing inputs such as raw materials, equipments, etc.

In Figure 2.1 it is possible to see the whole activities with their subcategories.

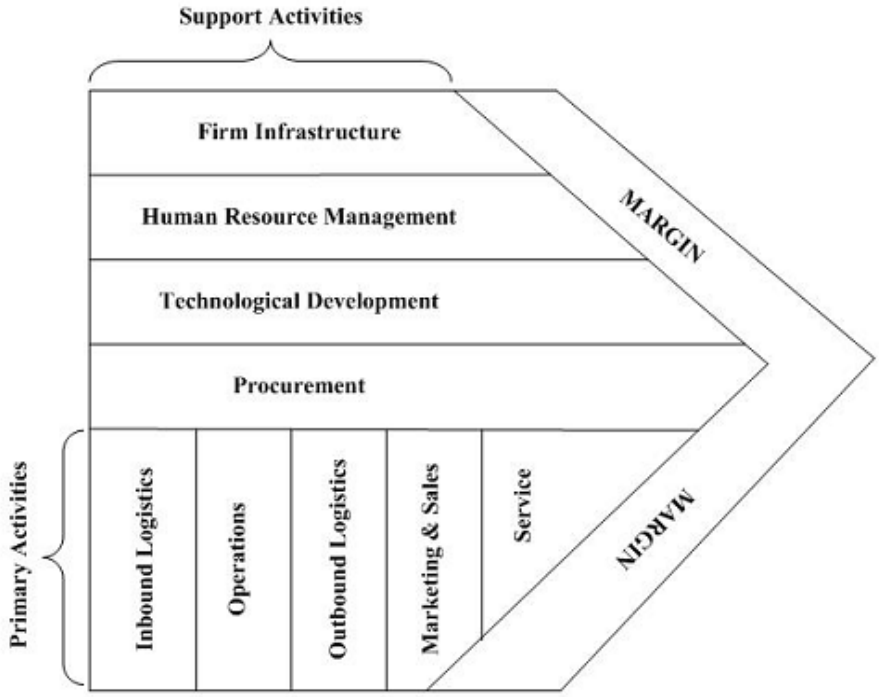


Figure 2.1 Value Chain Model (Porter, 1985)

According to the chosen business strategy, firms interpret value chain model mentioned above in different ways. If the competitive strategy of the firm is low cost strategy, then firms can realize the value chain as shown in Figure 2.2.

Porter (1980) describes the advantages and disadvantages of low cost strategy as listed below:

Advantages of low cost strategy:

1. Premium over industry average
2. Powerful bargaining on buyers and suppliers
3. More capital resources for new investments
4. Substantial entry barriers with cost advantages

Disadvantages of low cost strategy:

1. Competitors can have lower costs by imitating a firm's low cost approach
2. Changes in technology can negatively affect the firm's cost approaches
3. If firms focus only on cutting costs, they may not be aware of required market or product expectations concerning the customers' changing demands
4. Firms may have to limit their budget for differentiation while pursuing for cost advantage
5. Big capital is a requirement for benefiting from economy of scale for low cost strategy
6. Lowering costs may be hard if all competitors have the same input or raw material pool

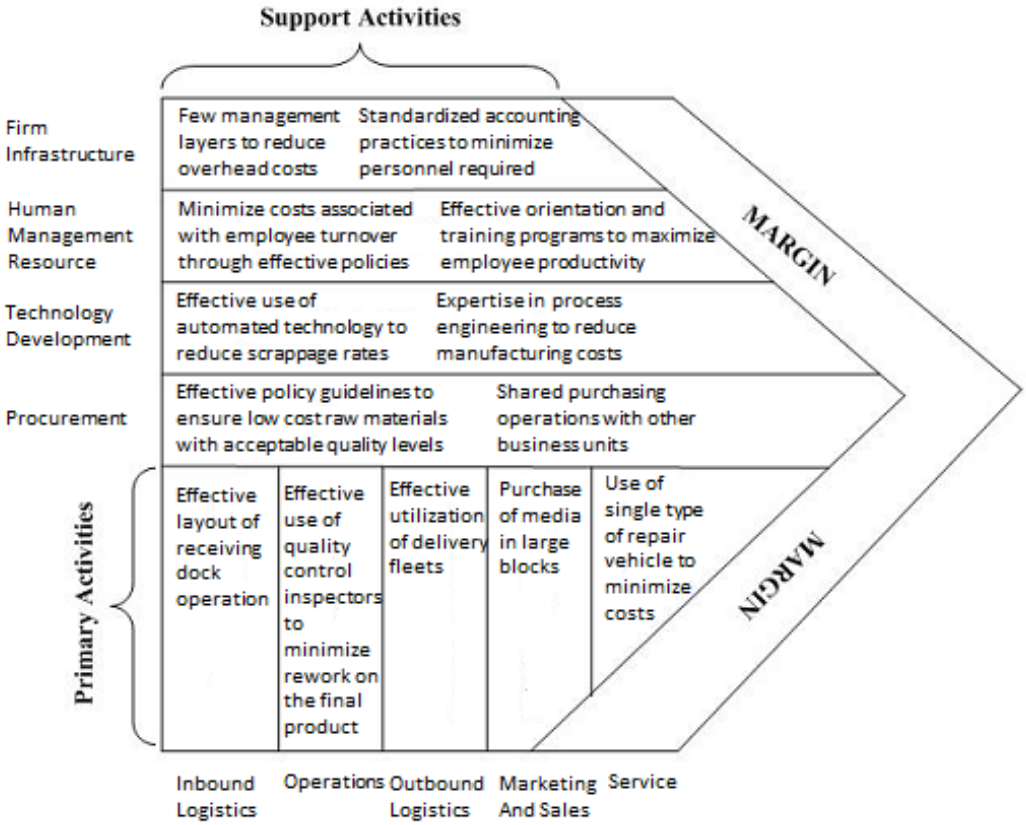


Figure 2.2 Value Chain of Low Cost Strategy (Porter, 1985)

This strategy will be successful when:

1. Products are standard, there are a few ways to differentiate them,
2. Buyers have similar needs,
3. Buying behaviour of customers is based on lower prices comparing with equivalent products (Hambrick, 1983 a),
4. Cost of producing inputs are high but can be reduced with the help of vertical integration (Murray, 1988),
5. Significant innovations are possible in process technologies (Murray,1988)

It is more effective in basic industrial commodities such as paper, pulp and steel (Bennett and Cooper, 1979) because firms generally compete with cost in these industries (Porter, 1980).

2.1.2 Differentiation Strategy

Second basic generic strategy presented by Porter namely differentiation strategy, focuses on creating customer value through innovation, qualified and well-designed products or services, superior technology, differentiated design features and brand image (Porter 1980). It is based on serving products or services that are perceived uniquely attractive by many buyers in an industry (Miller, 1986). Customers think that differentiated product or service is important and has superiority (Dickson and Ginter, 1987). By means of the perceived uniqueness, firms not only grab attention of more customers (Acquaah and Ardekani, 2008) but also persuade them to pay top prices (Porter, 1985) for their differentiated products, and accordingly enhance their profitability.

According to Porter (1985) firms can perform a process/product that is more unique than the current one to realize differentiation strategy by reconfiguring the value chain. He describes the four ways of reconfiguring the value chain as: (1) a new distribution channel or selling approach, (2) forward integration to take over buyer functions or eliminate the channels, (3) backward integration to control more determinants of product quality, (4) adoption to an entirely new process technology.

Firms can realize a successful differentiation strategy by concentrating on innovativeness, R&D, and growth infrastructure (Balsam et al, 2011). Being sensitive to changing demands is an important necessity for firms with differentiation strategy (Koza and Lewin, 1998). *Effectiveness* is the key concept of differentiation. As effectiveness concerns "doing the right thing", firms that pursue differentiation do not have to focus on the cost. Customers are willing to pay premium prices for differentiated products (Miller, 1986); so this principle helps avoiding price competition with achieving a prestigious brand image and customer loyalty (Porter, 1980). Hence differentiation strategy requires strong *marketing abilities, powerful cooperation with marketing channels* and an *innovativeness strategy* (Miller, 1986).

Porter (1985) summarizes the steps in differentiation strategy as follows:

1. Detect target customer,
2. Identify value chain,
3. Trace the purchasing criteria of customers,
4. Determine current sources of uniqueness in value chain,
5. Calculate differentiation cost,
6. Identify reconfiguring value chain activities concerning the costs,
7. Test the strategy, whether it is sustainable,
8. Reduce cost of activities that are not very important for customer.

In order to realize a successful product differentiation, the firm can focus on: (a) attributes of product or service – concerning specifications, sophistication of products, and a successful scheduling of promotion and placement of products (b) relations between customers –including product customization, consumer marketing, reputation-, (c) linkages within and between firms –including links between functions within the firm, a product mix, distribution system, level of service and support- (Porter, 1980).

A *flexible organic structure* and *uncertain environment* are linked to differentiation strategy (Miller, 1988; Ward et al, 1996). Characteristics of the industry are critical as well. Firms can consolidate a market through differentiation in fragmented industries. Such industries consist of firms which are small-sized and ineffective to direct the industry alone. In emerging industries, firms which adopt differentiation, strategy will have the advantage of being "first mover", and of "technological leadership" (Barney and Hesterley, 2010).

Differentiation is an attractive approach in cases where value or identical features of product has more effect than its cost for customers, and firms have policies that encourage risk-taking, and create a chance to follow distinct ways to differentiate products with the aim of gaining customer loyalty (Porter, 1985). However, when buyers do not value uniqueness, differentiating the product is too expensive or too difficult to be meaningful. It must also be considered that it is hard to be pursuing uniqueness image in long term because of smart competitors' imitations (Hill and Jones, 2008). In this sense, for establishing a strong differentiation strategy, understanding the buyers' needs or behaviours in terms of what they consider important, what they think is valuable, what they are willing to pay is a vital requirement for firms (Strickland, 1999). Thus, maintaining differentiation strategy requires strong marketing capabilities, intense R&D activities, and also staying out of price competition. Establishing a strategy that is hard to be duplicated by competitors is also important for long-term success. To ensure all these together costs a great deal of money for firms' sustainability (Miller and Dess, 1996; Hill and Jones, 2008).

Porter (1985) describes the advantages and disadvantages of differentiation strategy as below:

Advantages of differentiation strategy:

1. It builds up substantial entry barriers due to customer loyalty
2. It provides prestige due to highly differentiated products that result in the ability to deal with supplier power
3. It reduces buyer's bargaining power as buyers are lack a suitable alternative

Disadvantages of differentiation strategy:

1. Firm can isolate the cost of activities and focus on differentiation,
2. Product quality and service level can be much higher than buyers' need - called too much differentiation-
3. Firm can ignore the whole value chain while focusing on product
4. Buyers' purchase criteria may not be recognized

Whenever the competitive strategy of the firm is differentiation strategy, firms can implement the value chain as shown in Figure 2.3.

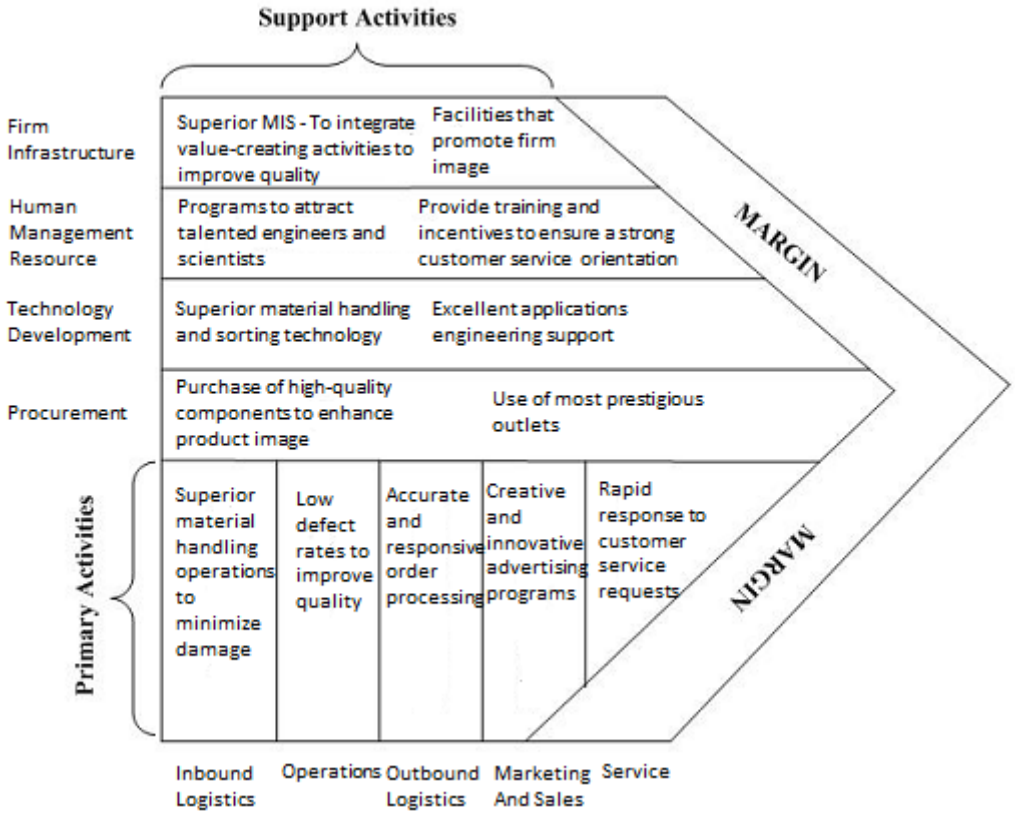


Figure 2.3 Value Chain of Differentiation Strategy (Porter, 1985)

Differentiation is more important in electronics, automobiles and major appliances industries (Datta 2009). For instance, German machine tool producers go beyond their rivals by differentiation strategies with high performance, reliability, responsive service.

As mentioned above, low cost and differentiation strategies have almost opposite structures. Their implementations require different management approaches and styles. These differences are summarized in seven categories as “definition”, “how to”, “critical concepts”, “environments”, “advantages”, “disadvantages”, “successful when” topics in Table 2.1.

- Definitions – the differences of two strategies in terms of their definitions
- How to – which methods are used in order to implement these strategies
- Critical concepts – basic concepts that explain the main principles of these strategies
- Environments – which environment is proper for the successful implementations of these strategies
- Advantages – favourable features of two strategies
- Disadvantages – unfavourable features of two strategies
- Successful when – the suitable conditions are achieved to pursue these strategies with best performance.

Table 2.1 Comparison of Low Cost and Differentiation Strategies

	STRATEGIES	
FEATURES	**Low Cost Strategy**	**Differentiation Strategy**
Definition	Aggressive construction of efficient-scale facilities, vigorous pursuit of cost reductions from experience, tight cost and overhead control, avoidance of marginal customer accounts	Creating customer value through innovation, qualified and well-designed products or services, superior technology, differentiated design features and brand image
How to	.With possibly the most competitive price .With lower manufacturing and distribution channel costs .Limited innovations on standardized and no-frill products	.Focusing on R&D, growth infrastructure and innovativeness on high quality, state-of-the-art, products .Being sensitive to changing customer needs and demands
Critical concepts	. Efficiency . Economies of scale . High volume production . Learning curve	. Effectiveness . Strong marketing abilities . Creativity of managers .Strong cooperation with marketing channels
Environment	. Mature industries . Stability – low market dynamism . Centralization . Bureaucratization	. Flexible organic structure . Uncertain environments . High market dynamism . Decentralization of power
Advantages	. Achieving premium over industry average . Powerful bargaining on buyers and suppliers . Having more capital resources for new investments . Barrier new entries due to cost advantages	. Creation of brand and customer loyalty . Powerful suppliers and buyers . Greater revenue and higher profitability . Barrier new entries due to customer loyalty
Disadvantages	. Competitors may imitate low cost structure . Rapid changes in technology . Being unaware of required changes while focusing only on cutting costs .Limiting the budget for differentiation approaches . Big capital is a requirement for economy of scale	.Isolating the cost of activities .Too much differentiation .Ignoring the whole value chain and focusing on only product .Not recognizing the buyer's purchase criteria .Difficulty of pursuing uniqueness image in long term because of smart competitors' imitations.
Successful When	. Products are standard and there are a few ways to differentiate them . Buyers have similar needs . Buying decision is based on prices	. Value of product has more effect than its cost for customers . Firms have policies that enhance risk-taking, and creativeness

2.2 Combination (Hybrid) Strategy

Low cost and differentiation strategies involve fundamentally different sets of activities, resources, capabilities, requirements, objectives and organizational structure (Porter, 1985). Particularly, low cost strategy forces reducing costs but differentiation may inherently cause high costs due to expensive efforts in order to generate attractive or extraordinary products. While low cost strategy cares about all forms of cost savings and standardization, differentiation enhances continuous quality improvement, delivery speed, research and development (Gupta 1987). Low cost strategy is concerned with fewer inputs than rivals for an output and short-term period returns compared to differentiation. Differentiation strategy allows a firm to demand extra price and to achieve superior profitability those of competitors. Measurement of cost saving is easier and more practical than measuring the benefits of differentiation (Gupta 1987). Low cost strategy requires much more "economies of scale" but differentiation needs more resource sharing (Gupta and Govindarajan, 1986). Cost leaders spend less money for R&D than differentiators because they focus on making products easier and cheaper instead of creating new products (Miller and Dess, 1996).

Due to all these differences mentioned above, scholars agree on the fact that pursuing low cost and differentiation strategies together may cause inconsistencies arising from their competing structures (Porter, 1985; Dess and Davis, 1984; Hambrick, 1983b). They express that firms that try to concentrate on both generic strategies can fail to implement any of them successfully and become "*stuck-in-the-middle*". Firms have limited sources, such that when they direct these sources to reducing costs, they have to cut down on the sources of differentiation or vice versa. In this case, firms face decreased performance, profitability and competitive advantage. Despite all these, Porter (1985) says that pursuing these two seemingly contradictory strategies together is reasonable when competitors are stuck-in-the-middle position. Because in such a case any of the competitors can force a firm to reduce costs more and more or overspend for differentiation. But he thinks that this is a temporary situation; sooner or later firms will face with a strong competitor and have to choose one of the generic strategies to sustain in the long-term.

Three groups of scholars disagree with Porter (1985) in literature. First group suggest firms do not separate generic strategies completely. For instance Mintzberg (1988) thinks that low cost strategy is a kind of low price based differentiation strategy. Two marketers, Dickson and Ginter (1987) identified differentiation in a similar way with Mintzberg (1988). They claim that customers may perceive the product different because of both its physical or nonphysical characteristics like *price*.

Second group of scholars emphasize the complementariness of generic strategies. Hill (1988) argues that with a successful differentiation strategy firms will affect a wide customer group. As a result, volume of sales will increase and this will lead to a cost reduction or cost leadership position. Philips et al (1983) mention that differentiation strategy may be thought as obtaining low cost position. Moreover, Speed (1989) underlines that pursuing only one of generic strategies has no value as both strategies complete each other. In line with these studies, Gibson (1995) describes the complementariness with McDonald's case. When McDonalds penetrated the market, it followed a differentiation strategy and became the market share leader. Then with the help of its market position, McDonalds reduced costs and became the cost leader besides being the market share leader of the industry.

Third group of scholars support the necessity of combination strategy that is referred as realizing differentiation and low cost strategies at the same time. The main sense of these scholars is that focusing on only low cost strategy may cause firms to face defencelessness in time. In the opposite case, focusing on only differentiation strategy exclusively may cause firms to face low efficiency. Herein Yasai-Ardekani and Nystrom (1996) argue that realizing differentiation with low cost strategy can minimize the firms' defencelessness. Besides, Acquaah and Yasai-Ardekani (2008) mention that pursuing low cost strategy together with differentiation helps firms strengthen their position with value-creating activities. In this context, is discussed an alternative strategy named *best-cost provider* which combines a strategic emphasis on low cost and differentiation in terms of more than minimally acceptable quality, service and performance (Thompson and Strickland, 1995). The main idea of best-cost-provider is creating superior value by satisfying customers' expectations with high-end products at lower price than competitors, who have

comparable quality-service-features-performance attributes; in other words giving customers more value for their money. Having resources, know-how and capabilities at a low cost can help perform this approach. The hybrid structure of this approach provides superior customer value by combining the advantages of generic strategies compared to either low cost or differentiation strategies. Although he has held opposite views before, even Porter (Porter, 1996; Porter and Lee, 2013) underlines the necessity of delivering greater value to customers by using best available technologies, skills, management techniques at low costs. For this reason, debates still proceed on "can/should differentiation and low cost strategies be pursued simultaneously?" that has been started at 1980s still proceed.

In recent literature, alternative views against pursuing only one generic strategy in a period of time are regarded as combination strategy, which is referred to pursuing low cost and differentiation simultaneously (Yasai-Ardekani and Nystrom, 1996; Mittal et al., 2005; etc.). The essence of combination strategy is to benefit from low cost for *efficiency* and differentiation for *effectiveness*. In this sense, main principle of combination strategy is based upon establishing a strong competitiveness by benefiting from the synergetic effect of generic strategies. For instance, whenever firms concentrate on only low cost strategy, they may face with defencelessness after a while. On the other hand, pursuing only differentiation strategy may cause inefficiency. Combination strategy allows firms to minimize defencelessness (Yasai-Ardekani and Nystrom, 1996) and strengthen their positions with value-creating activities (Acquaah and Yasai-Ardekani, 2008). Consequently, firms can achieve higher performance by transforming dissimilarities of generic strategies into an advantage.

Combination strategy is critical for firms in terms of sustaining competitive strategy and surviving in long term. Hall (1980) offers one of the first studies on combination strategy. He analyzes firms in different industries and reveals that a part of the firms that perform combination strategy succeed. In another study, Ishikura (1983) points to Japanese firms such as Toyota, Canon and Honda, which achieve success through pursuing a combination strategy. Business units in White's (1986) study, which apply combination strategy, have the highest ROI compared to other units. Womac et al (1990) refer to auto plants throughout the world assembling mid-

size sedans that have low cost as well as high quality. Mittal et al (2005) find that if a firm focuses on both customer satisfaction provided by differentiation and efficiency provided by low cost strategy, it would be more successful in long term. In their study on 180 Turkish firms, Kaya et al. (2003) observe the positive effect of combination strategy on firm performance. Principally, many scholars have already expressed the positive impact of combination strategy on firm performance (Buzzell and Gale, 1987; Buzzell and Wiersema, 1981; Wright et al, 1991; Kim et al 2004; Li and Li, 2008; Claver-Cortés et al 2012).

In addition to the studies concerning the optimality of combination strategy, its superiority upon low cost or differentiation is also discussed in literature. For instance, Miller and Dess (1993) and Parnell (2000) argue that combination strategy results in maximum adaptive capacity through firms' relying on both low cost and differentiation strategy. In addition to these studies, it is shown that not only the profitability (Spanos et al., 2004); Acquaah and Yasai-Ardekani, 2008) but also the performance (Pertusa-Ortega et al., 2009) of firms pursuing combination strategies outscore the firms pursuing low cost or differentiation strategies.

In short, it is possible to say that despite the challenges of implementing two strategies that have different requirements, organizational structures, combination strategy is critically important for firms to achieve higher performance and long-term sustainability.

2.3 Environmental Conditions

In this thesis, the effects of environmental conditions on innovation efforts are studied in detail. Although the expression of "environmental conditions" covers a wide range of components, we limit them with market dynamism and price competition.

2.3.1 Market Dynamism

Market dynamism is conceptualized as high frequency of environmental and technological changes (Dess and Beard, 1984; Duncan, 1972). In other words, market dynamism causes big challenges in terms of short product life cycles, high probability of new rivals' entries, new competitive moves of rivals, rapidly evolving customer requirements and expectations (Strickland, 1999). Accordingly, firms in dynamic markets face not only instable and risky conditions (Keats and Hitt, 1988) but also uncertainty and unpredictability (Kabadayi et al., 2007; Homburg et al., 1999) during strategy formulation. Analyzing what is going on and deciding on how to design actions to overcome the difficulties arising from rapid changes result in conflicts. So, identifying the problems and opportunities becomes critical. Moreover, with the environmental changes, information, rules, structures become useless in short time periods, so speed for adaptation, in-depth expertise for quick decisions, innovativeness and flexibility are especially pivotal in dynamic markets (Strickland, 1999). Consequently, monitoring, assessing and reacting to changing environment become crucial.

Success of firms in dynamic markets depends on (Strickland, 1999):

1. Continuous R&D activities to lead edge of technological know-how
2. Quick reaction times to new environmental conditions by predicting all the changes that will occur.
3. Relying on partnerships with outside suppliers because firms may not always have enough resources for adaptation processes.

2.3.2 Price Competition

Price competition is a market strategy whereby products are distinguished as per their prices. In a price competitive environment, customers assess two identical products with their prices and choose the cheapest one. Means, price is the key factor for customers in purchasing decision. So firms directly seek to attract customers by cutting down retail prices as much as possible and gain the price war in the market.

Price competition is particularly effective in environments where the products are similar, and customer needs or demands do not change rapidly. Accordingly, the environment is more stable, predictable and understandable. Links between causes and effects as well as differences of problems and opportunities are responsibly clear. Main objective of the firms in such environments is to be ahead of their competitors by attracting the customers with lower prices. Accordingly, price competition is a strong motivator for firms to concentrate on efficiency and cost reduction instead of innovative modifications (Hambrick 1983a; Miller 1991; Ward et al., 1996).

2.4 Innovation Efforts

Broadly speaking, innovation can be defined as introducing something new that make a positive contribution for doing something better, smarter, more effective or more efficient. Innovation is approached as generating new knowledge (Gibson and Birkinshaw, 2004), improving capabilities or increasing efficiency (Drucker, 1985). Accordingly, the starting point of innovative approach is creative ideas. It concerns transformation of new knowledge into a commercial value (Günday et al., 2011). More specifically, innovation is considered as the combination of generating new knowledge, applying this knowledge to products/services and offering them to economic area.

The scope of innovation can be categorized as below (Aloini and Martini, 2013)

- search –looking for opportunities of innovation,
- selection – deciding on what to do with reasons
- implementation and capture – the application methods and also description of its benefits.

Innovation is seen as a necessity for firms in order to achieve both survival and sustainability. The main reason for this is its feasibility of increasing both efficiency and profitability, which leads to improved competitive edge and business performance (Günday et al., 2011; Cantarello et al, 2012). In this context, the direct relationship between innovation and firm performance has been presented in various studies. In these studies firm performance is found to cover a wide spectrum such as profitability (Geroski, 1995), productivity (Fagerberg et al., 2004), competitive advantage (McAdam and Keogh, 2004), sales (Lööf and Heshmati, 2007), market share (Blundell et al., 1999), etc. Correspondingly, selecting the most suitable innovation efforts has a pivotal role for firms in order to increase firm performance, to achieve a strong competitive advantage and to survive especially despite increasing market pressure arising from rapidly changing technological environment and customer demands in almost all areas in recent years (Cantarello et al., 2012). However, there are a number of frameworks that are used to classify innovation i.e. radical-incremental-transformational, product-process or exploratory-exploitative. All these classifications depend on the sources of innovation and facilitate measuring the benefits of it. In this thesis, three innovation efforts namely exploitative, exploratory and ambidextrous innovation efforts are herebelow discussed in detail.

2.4.1 Exploitative Innovation Efforts

March (1991) defines exploitation as "the refinement and extension of existing competencies, technologies, and paradigms". It is the ability of continuous improvement in order to make current resources and processes more efficient or productive (He and Wong, 2004; O'Reilly and Tushman, 2008).

Increasing efficiency through expanding existing knowledge, skills, processes and structures, improving products with current technology, marketing strategies or segmentation tactics are seen as the essences of exploitative innovation efforts (Kyriakopoulos and Moorman 2004; Smith and Tushman 2005). Such innovation efforts focus on satisfaction of current customers, refinement of products or processes with the help of current capabilities (technology, marketing strategies,

segmentation tactics, etc.) (Daneels, 2002; Benner and Tushman, 2003; Alpkan et al., 2012). Accordingly, *efficiency, consistent improvement, increasing productivity, variance reduction, and short-term time perspective* are keywords of exploitative approach (He and Wong, 2004; O'Reilly and Tushman, 2008).

Firms pursuing exploitative innovation make small adaptations of radical improvements (Ancona et al., 2001; Benner and Tushman, 2002; Alpkan et al., 2012). They improve their existing skills, capabilities and processes with existing technology, product composition, marketing strategies and segmentation tactics (Kyriakopoulos and Moorman 2004). They present limited product-market solutions and focus on standardizing job routines to increase efficiency and proficiency in production process (Yalçınkaya et al., 2007). As a result of this, exploitative innovation efforts lead to stable performance (He and Wong 2004) and traditional financial measures are more appropriate in order to evaluate those (Danneels, 2002). While their returns are speedy, clear, positive, predictable, the feedbacks are straightforward (March, 1991; Benner and Tushman, 2002).

It is clear that increasing level of economies of scale, automation of product processes and capacity utilization facilitate improving the capability of exploitative efforts (Mengüç and Auh, 2008). Such efforts are associated with formalization and centralization (Jansen et al, 2006). A weakly tied network structure is preferred for a successful exploitative innovation (Pandey and Sharma, 2009). It is known that stable markets and technologies are more appropriate for exploitative innovation efforts (Gupta et al 2006).

Firms pursuing exploitative innovation efforts generally have *mechanistic structures,* which involve high centralization, high formalization and vertical communication (He and Wong, 2004; Ancona et al., 2001). Learning process in these firms is *top-down.* In such a case, top managers decide on the procedures and relay final decisions to other employees (Lubatkin et al., 2006). The interactions between the management levels are in a formalized form resulting intense hierarchical rules (Lubatkin et al, 2006).

2.4.2 Exploratory Innovation Efforts

Exploration can be defined as "*experimentation with new alternatives having returns that are uncertain, distant, and often negative*" (March, 1991), or "*breaking status quo by shaping new featured products with the help of high technology and developing new knowledge and skills"* (Kyriakopoulos and Moorman, 2004). It is associated with terms such as *search*, *variation*, *risk taking*, *experimentation*, *divergent thinking, flexibility*, *autonomy, discovery and innovation* (March, 1991; He and Wong, 2004; Mengüç and Auh, 2008; O'Reilly and Tushman, 2008). Exploration is seen as an instrument to expand the vision of the firm through generating new products for emerging customers or markets (Danneels, 2002; Yalçınkaya et al., 2007). Its returns are neither clear nor predictable (March, 1991; Benner and Tushman, 2002). Exploration is based upon ground-breaking innovations in technology or processes with the help of R&D activities (Benner and Tushman, 2003; Fang et al., 2011).

The main characteristics of explorative firms are strong communication networks among different departments and R&D approach (March, 1991; He and Wong, 2004). Such firms have less predictable but broad in scope outputs (March 1991; Tushman and O'Reilly, 1997). Accordingly, they should have an ability to tolerate uncertain outcomes and failures (Kehoe and Collins, 2008). *Adjustment, external adaptation, organic structures, loosely coupled systems, emerging highly dynamic markets and technologie*s concepts are exactly critical concepts for explorative firms (Ancona et al, 2001; Gupta et al, 2006; Alpkan and Aren, 2009). In accordance with the risk-taking attitude, managers should take account of the considerable amount of failing probability (He and Wong, 2004).

In explorative firms, learning process is generally *bottom-up* and interactions between management levels are not formalized because of the enhancement of creativity and giving up old routines (Lubatkin et al, 2006). Therefore, such firms should have employees who are flexible, collaborative and who can develop a strategy in the lack of feedback (Kehoe and Collins, 2008). As proposing new and unusual ideas is required, employees are also supposed to intrepidly take risks (Smith and Tushman, 2005).

Although exploration has been discussed in many areas such as organizational activities, learning, alliance types, etc. in literature, it has also been discussed in innovation concept (Jansen et al, 2006; Fang et al, 2011; Jasmand et al 2012; Alpkan et al, 2012). Exploratory innovation efforts deal with ground-breaking changes in technology or processes (Benner and Tushman, 2003; Fang et al., 2011). Such efforts concentrate on adaptation to environment with fundamental changes and guarantee sustainability (Levinthal and March, 1993; Alexiev et al., 2010). The returns of it are relatively uncertain and take a long time (He and Wong, 2004). Briefly, the main principle of exploratory innovation is satisfying emergent customers and markets (Daneels, 2002).

Exploratory innovation concept can be bound with presenting new knowledge or ideas, radical implications and completely new products with new product lines in new or emerging markets (Benner and Tushman, 2003; He and Wong, 2004; Azadegan and Wagner, 2011; Fang et al, 2011). Exploratory innovation is seen as the guarantee of success in long period of time (Levinthal and March, 1993; Alexiev et al, 2010)

Main characteristics of exploitative and exploratory innovation efforts are summarized in Table 2.2 here below.

Table 2.2 Comparison of Exploitative and Exploratory Innovation Efforts

	CONCEPTS	
Features	**Exploratory Innovation Efforts**	**Exploitative Innovation Efforts**
Definition	Exploration of new alternatives that have uncertain, distant or even negative returns	Refinement and extension of existing competencies, technologies, and paradigms
Critical Concepts	Research, discovery, risk taking, experimentation, divergent thinking, innovation, adjustment and external adaptation	Efficiency, refinement, continuous product improvement, alignment and internal adaptation
Environment	Dynamic, organic structures, loosely coupled systems, emerging highly dynamic markets and technologies	Structured processes, systems, powerful control mechanisms, bureaucracy, hierarchy, stable markets and technologies
Structure	Organic	Mechanic
Advantages	Competitive advantage in long time Adopting to changing environmental conditions with flexible structure Survival with research and discovery Advantages of emerging markets such as being first in the industry	Returns are certain, clear, positive and achieved in short time If procedures are tracked continuously, a stable performance is achieved Managers can receive clear feedbacks Overcome obsolescence
Disadvantages	Returns are uncertain, distant, and even negative If communication among departments is damaged, sustainability will be impossible Due to risk taking culture, failing has always a high possibility Managers have to decide in lack of feedback Too much exploration may cause inefficiencies and may prevent achieving economies of scale	Adaptation can take a long time in line with its structure Achieving sustainability in long term may be hard Too much exploitation can cause inertia

2.4.3 Ambidextrous Innovation Efforts

Due to intense competition among firms in recent years, managers should have to provide new approaches in order to overcome the challenge of rapidly changing customer demands. For this purpose, they enhance generating innovative products, while they enforce finding new ways for providing efficiency, effectiveness and cost reduction (Corso and Pellegrini 2007). In this context, firms necessarily focus on duality of adapting to changes in the environment with creative solutions and refining current processes at the same time (Jansen et al., 2005). As a matter of fact, *duality* approach was firstly suggested by Thompson (1967) in 1967. He has argued that a firm can have a dual structure by using mechanistic and organic domain within an organization. In another study, Duncan (1972) has claimed that firms primarily adjust to organic structures for performing innovation, and then to mechanic structure for exploiting current processes. March (1991) has considered duality from a different perspective. He recommends combining exploration and exploitation. Although these two approaches seem as paradoxical, according to March (1991) pursuing them together is possible. Later on, balancing exploratory and exploitative approaches is analyzed in detail. In 1996, Tushman and O'Reilly (1996) defined this balance as "ambidexterity". Since then, ambidexterity concept is dealed with from a wide spectrum in various studies (Adler et al., 1999; McGrath, 2001; Gibson and Birkinshaw, 2004; Holmqvist, 2004; Kyriakopoulos and Moorman, 2004; Jansen et al, 2005; Smith and Tushman, 2005; Govindarajan and Trimble, 2005; Şimşek et al, 2008).

In the broad sense, ambidexterity refers to being able to use both hands effectively in early literature. However, as Şimşek et al (2009) describe, in management literature, it is addressed as simultaneous pursuit of two conflicting or competing strategies, activities or efforts such as *search and stability* (Rivkin and Siggelkow, 2003), *flexibility and efficiency* (Adler et al., 1999), *search scope and depth* (Katila and Ahuja, 2002), *exploitative and explorative learning* (Kang and Snell, 2009), *alignment and adaptability* (Gibson and Birkinshaw, 2004), *incremental and discontinuous innovations* (Benner and Tushman, 2003; Smith and Tushman, 2005), *explorative and exploitative knowledge sharing* (Im and Rai, 2008), *pro-profit*

and pro-growth strategies (Han, 2005). Nevertheless, usually ambidexterity refers to balancing exploration and exploitation (Gupta et al, 2006).

Exploration and exploitation are two approaches that have quite different features as mentioned before. They require disparate management styles, resources, architectures, etc. Thus, in order to achieve a strong ambidextrous pursuit of both exploration and exploitation, firms first have to overcome the challenges of balancing two contrary concepts simultaneously arising from trade-off problems (March, 1991; Tushman and O'Reilly, 1996; Levinthal and March, 1993; Benner and Tushman, 2003; Gupta et al., 2006; Hsu et al, 2013).

In literature opposite views exist about how to utilize them. On one hand, a group of scholars underline the difficulties of gaining advantages of both exploration and exploitation in consideration of the hardness of managing them together and recommend separating them (Burgelman, 1991; Christensen, 1997; Ebben and Johnson, 2005; Knott and Posen, 2005). On the other hand, various scholars emphasize the importance of holding exploration and exploitation within firms and certainly recommend ambidexterity (March, 1991; Tushman and O'Reilly, 1996; Garcia et al., 2003; He and Wong, 2004; Hernandez-Espallardo et al., 2012). They argue that although they seem as competing, exploratory and exploitative approaches complete each as well. Their complementariness can be explained in this way: If a firm concentrate on exploration, embodying creative ideas and generating fundamental innovations is possible. However, if the focal point of the firms is only exploration, then refinement of existing capabilities, efficiency, benefiting from economies of scale and learning from current knowledge may fail (Levinthal and March, 1993; Garcia et al., 2003; He and Wong, 2004; Yalçınkaya et al., 2007). On the other hand, whenever exploitation is the core of all activities, after a while appears inertia problem, and ground-breaking innovative solutions and adapting to rapid changes in competitive environment will fail (Hannan and Freeman, 1984; March, 1991; Levinthal and March, 1993; Tushman and O'Reilly, 1996; Benner 2002; Liu and Leitner, 2012). In this context, by balancing exploration and exploitation, firms do not face the problems arising from focusing on one.

He and Wong (2004) label organizations that pursue ambidexterity as "ambidextrous". Being ambidextrous is important for firms in order to achieve sustainability (Tushman and O'Reilly, 1997; He and Wong, 2004; Lubatkin et al., 2006; Han, 2007) and to strengthen competitive advantage (Gibson and Birkinshaw, 2004; Cantarello et al, 2012). Accordingly, scholars agree on the fact that ambidexterity leads to both short and long-term performance (March 1991; Han et al. 2001; Tushman and O'Reilly 1996) in terms of revenues, profits, customer satisfaction and new production introductions (Logman, 2009) and ovecome obsolescence (Levinthal and March, 1993; Kyriakopoulos and Moorman, 2004). Despite all its management challenges, ambidexterity is still attractive by means of its advantages (Raisch and Birkinshaw, 2008). Advantages of ambidextrous firms can be listed as below (Tushman and O'Reilly, 1996):

1. achieve higher performance and sustainability,
2. avoid costs of switching management modes,
3. divert organizational inertia,
4. easily adapt to changes.

Ambidexterity concept is discussed in innovation concept as "ambidextrous innovation" that refers to pursuing exploratory and exploitative innovation simultaneously (He and Wong, 2004; Jansen et al, 2006; Yalçınkaya et al., 2007; Raisch, and Birkinshaw, 2008; Li and Lin, 2008; Cantarello et al, 2012; Alpkan et al, 2012). Exploratory innovation is associated with performing ground-breaking innovation in technology or processes (Benner and Tushman, 2002), and developing completely new products or services. Thus, it facilitates expanding firms' horizons. As for exploitative innovation, it is generally linked with small adaptations and improvements in existing components or capabilities (Alpkan et al, 2012). The essence of exploitative innovation is making processes/products/services more efficient.

Exploratory and exploitative innovation efforts have different dynamics, requirements, management styles and resources. Balancing them appropriately is a serious challenge for firms. Forcing simultaneous implementations of these two efforts cause trade-off problems. However, despite their competing natures, exploratory and exploitative innovation efforts still complete each other. For instance, when exploitation is at the centre of all activities, proposing new ideas and adapting to environmental changes may fail because of inertia (March, 1991; Levinthal and March, 1993; Tushman and O'Reilly, 1996; Liu and Leitner, 2012). Besides, if a firm focuses just on exploration, then it becomes hard to improve efficiency, refine existing capabilities, benefit from economies of scales and learn from current knowledge (Levinthal and March, 1993; Garcia et al., 2003; He and Wong, 2004; Yalçınkaya et al., 2007). It may be possible to cope with the gaps of each innovation effort better by pursuing them simultaneously. Ambidextrous innovation efforts enable developing new products and increasing the efficiency of current capabilities concurrently. Thus, such efforts provide achieving the goals of both exploitative and exploratory innovation efforts together. Consequently, interaction of exploratory and exploitative innovation efforts results in a stronger innovative structure (Alexiev et al., 2010; Bledow et al., 2009).

In today's aggressive competitive environment, ambidextrous innovation is seen as a miracle thanks to its solutions to various hard problems. With the help of its synergetic effect, ambidextrous efforts into transform the challenges of managing two contradictory efforts to opportunities by providing both alignment within the organization and adaptability to the environmental changes. Such that,

- It has positive impact on both short and long term performance (March 1991; Tushman and O'Reilly 1996),
- It protects firms from obsolescence (Levinthal and March, 1993; Kyriakopoulos and Moorman, 2004),
- It provides sustainability (Tushman and O'Reilly, 1997; Lubatkin et al., 2006),
- It strengthens firms' competitive advantage (Gibson and Birkinshaw, 2004; Cantarello et al., 2012).

Accordingly, the superior effect of ambidexterity on firm performance is discussed and agreed upon in literature (Birkinshaw and Gibson, 2004; Jansen et al., 2005; etc.). All these advantages make ambidextrous innovation efforts attractive in managers' eyes (Raisch and Birkinshaw, 2008).

2.5 Firm Performance

Firm performance refers to the level of the success that has been achieved through strategies, efforts or activities at the end of a specified period (Porter, 1991). In other words, the effectiveness of a strategy is evaluated with performance measures.

Firm performance is a multidimensional criterion. However, financial and marketing performances are two main categories that are used to evaluate firm performance (e.g., Sin et al., 2005). In this study, we aim to clarify the antecedents of financial and market performances of a firm.

2.5.1 Financial Performance

Financial performance is the most frequently used success criterion. It depends upon accounting-based measures such as Return on Assets (ROA), Return on Revenue (ROR), Return on Investments (ROI), Return on Sales (ROS) and profits. ROA indicates how efficiently the assets are used in order to generate earnings. It is displayed as a percentage and calculated by dividing firms' annual earnings by its total assets. The higher ROA percentage means, the more money firm earns with fewer assets. ROR measures the profitability per unit product by comparing net income to revenue. Revenue is the amount of money that is generated from business activities of a firm during a certain period. As for net income, it is calculated by subtracting the costs of doing business, taxes paid and depreciation from revenue. ROI is one of the most frequently used ratio in order to both determine whether an

investment is interpreted effectively and to compare the efficiency of different investments. This indicator is a percentage and found with dividing the cost of investments by return of an investment. Finally, ROS is used to evaluate the firm's operational efficiency. It helps comparing the profitability of firms. ROS ratio is calculated with the division of sales by net income.

Consequently, measures such as ROA, ROR, ROI and ROS help managers assess how efficiently the firm uses its resources and capabilities (Rothaermel and Alexandre, 2009). They are also beneficial for controlling whether the firm achieves its economic goals (Gentry and Shen, 2010).

2.5.2 Market Performance

The second major success criterion of firm performance is the market performance. The basis of market performance is operational effectiveness and competitiveness (Gentry and Shen, 2010). Because of the hardness of measuring this criterion, results of it can be achieved in a longer time period than financial.

Market performance can be measured with various parameters such as market share, total sales, etc. Market share is the percentage of a market that is earned by a specific firm over a specified time period. This metric is calculated by dividing total sales of a firm by total sales of the industry over the same period. It identifies the size of a firm compared to its competitors. Increasing market share is the main objective of many firms because a firm with high market share can control the developments in a market place, achieve cost advantage with the help of economies-of-scale, create barriers to entry, gain competitive advantage and sustain their position in the long-term. As for, total sales, it is the total amount of sales in a period. It indicates the total number of units sold times price per unit. It is an important metric for managers to know how successful their firm is at a given time.

There are various dominants that facilitate increasing market performance. Applying the right marketing tactics, ensuring customer loyalty, strengthening brand image, increasing brand recognition, flexible pricing policies are some of these dominants.

3. ANTECEDENTS OF INNOVATION EFFORTS

In today's cutthroat and rapidly changing competitive environments, managerial decision-making becomes more critical especially in selecting the most suitable innovation efforts and activities according to the environmental conditions. Therefore, understanding the antecedents of innovation efforts is pivotal. In this section, the effects of environmental conditions, generic strategies and combination strategy on innovation efforts are discussed in detail.

3.1 Research Design and Hypotheses

3.1.1 Effects of Environmental Conditions on Innovation Efforts

Environmental conditions have a dominance effect on decision-making processes concerning the selection of the right strategy, efforts or activities. Past research has emphasized the link between environmental factors such as market turbulence, dynamism, and uncertainty with strategic planning and innovation activities (Chang and Hughes, 2012). However, the question of "which innovation activities are preferred more under which circumstances" still remains untouched. Although environmental conditions cover many different factors, in this thesis we concentrate on market dynamism and price competition. The effects of these two factors on both exploratory and exploitative innovation efforts are discussed here below.

Effect of Market Dynamism on Exploratory Innovation Efforts: Market dynamism is shaped with uncertainty, unpredictability, and drastic changes in customer demands and technology (Porter 1980; Jansen et al., 2006). In the case of high market dynamism, current products and competences will deteriorate in a short time because of the rapid change in the environment (Danneels 2002). Thus, firms continuously renew their products with innovative solutions (Liu et al., 2010) and develop state of the art technology in order to satisfy changeable customer demands (Chang et al., 2011; Jiao et al., 2013).

In dynamic markets, with the aim of adapting to rapidly changing external conditions, firms first evaluate market opportunities, threats and competitors' behaviours, and then make an effort to reconfigure their structure (Teece et al., 1997) or even upgrade core competencies (Li and Liu 2014). Accordingly, long-term success in dynamic markets requires being good at risk taking, breaking status-quo and finding brand-new business approaches. As dynamism inherently leads to innovation (Pérez-Luño et al., 2011), the relations between dynamic markets and innovation efforts (exploratory and exploitative) become crucial. Especially exploratory innovation efforts facilitate managing challenges of dynamism. As mentioned before, products can be obsolete in a short time of period in dynamic markets. Exploration protects firms against this obsolescence threat with the help of enhanced R&D capabilities, flexible structure and creativeness sensibility (Jansen et al., 2006). Thus, under dynamic market pressure, managers tend to pursue exploratory innovation efforts.

Effect of Price Competition on Exploratory Innovation Efforts: Besides market dynamism, price competition also affects exploratory innovation efforts. Intensive competitive pressures among numerous rivals in the market place (Tsai & Yang, 2013) force firms to focus on increasing their level of efficiency and lowering prices (Jansen et al., 2006; Chang et al., 2011) leading to a tougher price competition (Ward et al., 1996). As a matter of fact, under these conditions, it firstly seems that concentrating on controlling costs and refining current technology, knowledge and skills can result in success (Kim and Atuahene-Gima 2010). However, in price competitive environments where number of cost reducing competitors is high, predictability and certainty may still decrease (Auh and Mengüç, 2005) such as in dynamic markets. For instance, some old competitors might leave the market all of a sudden, a newcomer may come up with a radical innovation or a substitute product with a better price-quality ratio. In that case, exploratory innovation efforts through creative solutions may help firms surpass the price competition the rivals suffer. Meanwhile, such efforts can still damage the competitive advantage with their expensive and risky structure (Li and Liu 2014). In price competitive environments, side benefits of exploratory innovation efforts are observed but at a minimum level (Lin et al., 2007).

Considering the above discussion, we argue that, although both market dynamism and price competition may lead to exploratory innovation efforts, market dynamism is more suitable for exploratory innovation efforts.

H_1: Market dynamism increases Exploratory Innovation Efforts more than Price Competition does

Effect of Price Competition on Exploitative Innovation Efforts: In price competitive markets, with the priority of efficiency, most managers direct firms' resources to explore current competencies instead of new business lines (Li and Liu, 2014). Thus, exploitative innovation through refining, improving, and reducing costs may be a persistent need for a strong competitive advantage in such markets (Gupta et al., 2006). Scholars agree on the fact that benefiting from exploitative innovation is more functional in these markets (Benner and Tushman, 2002; Chang et al., 2011). Consequently, price competition increases the necessity of exploitative innovation efforts.

Effect of Market Dynamism on Exploitative Innovation Efforts: Dynamism can also trigger exploitative innovation. When the level of uncertainty rises with dynamism, managers may feel that drastic change is a must. However, as drastic changes may be very detrimental without efficiency, managers should still care for exploitation (Lin et al., 2007) to keep up with rapid changes in the short run efficiently. But exploitation may not focus on customers' latent needs and cannot keep up with frequently changing opportunities. Thus, it's not always possible to overcome the challenges of dynamism with only exploitative innovation (Zhang and Duan, 2010) especially in the long run.

In brief, pursuing exploitative innovation efforts may have some efficiency-related benefits in dynamic markets. However, it seems that these efforts may bring much more fruits in those markets of high price competition. Therefore, we purport that the effect of price competition on the adoption of exploitative innovation efforts is higher than that of market dynamism.

H_2: Price Competition increases Exploitative Innovation Efforts more than Market Dynamism does

3.1.2 Effects of Generic Strategies on Innovation Efforts

Innovation efforts are not only based on external conditions such as environmental dynamics that we discussed above but internal dynamics also matter. These efforts should rely on both competitive environmental conditions and generic strategies selected by the organization itself. Recent literature has already related generic strategies to such internal factors as climate, resources and activities in a company to perform well (Ward et al., 1996; Li and Li, 2008; Leitner and Güldenberg, 2010). Although the generic strategies' link to exploratory and exploitative innovation efforts has not been empirically tested until now, to our knowledge, similar concepts have been studied in the past literature.

The alignment of generic strategies and internal factors is studied in many empirical works (DeSarbo et al., 2005; etc.). For instance, regarding generic strategies and capability alignments, scholars highlight that differentiated firms need to achieve technological capabilities to go beyond their rivals in three ways: (1) through new product-technology development capabilities, (2) by providing and successfully adapting to technological changes, (3) by enhancing quality management processes (Parnell, 2011). On the other hand, firms pursuing low cost strategy emphasize cost control capabilities, financial management skills, accuracy of profitability and revenue forecasting (DeSarbo et al., 2005).

Similarly, we can argue that generic strategies and innovation efforts should be aligned as well. In order to collect the fruits of the chosen strategy, the most suitable innovation efforts are required in the implementation phase. More specifically, efforts of exploration and/or exploitation should be suited to the generic strategy chosen. Although matching generic strategies to innovation efforts is very critical, their relations are not directly and deeply studied previously. In this study, we aim to clarify which generic strategy suits well which innovation efforts.

Effect of Differentiation Strategy on Exploratory Innovation Efforts: Top managers may decide to focus on creating value through innovation, superior technology, uniqueness, differentiated features and brand image (*i.e. differentiation strategy*) (Porter, 1985). In this case, the organization should put effort in research, experiment, divergent thinking, and breaking status quo in order to generate new solutions with the help of superior technology (*i.e. exploration efforts*) (He and Wong, 2004; Kyriakopoulos and Moorman, 2004).

Effect of Low Cost Strategy on Exploratory Innovation Efforts: Besides the more apparent relation of differentiation strategy to exploration efforts, low cost strategy may also lead to an increase in exploratory innovation efforts to some extent. At first sight, low cost strategy may seem to focus only on more standardized and less creative arrangements; however, it may also necessitate fundamental changes in processes, technologies and capabilities for cost reduction. Firms with low cost strategy can carry on their low cost advantage in the sector by finding creative solutions for effective cost cutting and refinement methods. Thus, in spite of neglecting the individual effect of low cost strategy on these efforts, side benefits should also be considered.

Pursuing exploratory innovation efforts may lead to some refinements that contribute to the goals of low cost strategy. However, it seems that these efforts can bring about most probably results consistent with the goals of differentiation strategy. Therefore, we purport that those firms that select differentiation strategy would incline to pursue exploratory innovation efforts when compared to those that select low cost strategy. In other words, although both generic strategies increase exploratory innovation efforts, differentiation strategy is more influential.

H_3: Differentiation Strategy increases Exploratory Innovation Efforts more than Low Cost Strategy does

Effect of Low Cost Strategy on Exploitative Innovation Efforts: With the help of existing technology, and the ability to produce products or services at the most competitive price, low cost strategy is associated with efficiency, improvement of current skills, and refinement of existing competencies (Porter, 1980; Miller, 1986; He and Wong, 2004). If low cost strategy is employed, small but more continuous adaptations or refinements are needed to enhance current situation (i.e. exploitation efforts). Therefore, it seems that exploitative innovation efforts suit well to the purposes of low cost strategy.

Effect of Differentiation Strategy on Exploitative Innovation Efforts: Although low cost strategy seems to be much more linked to exploitation, differentiation strategy may also necessitate exploitation. Activities of differentiation strategy (i.e. innovation, superior technology, uniqueness, differentiated features, brand image, etc.) are not necessarily in contrast with exploitative innovation efforts such as continuous refinements and improvements. For example, incremental changes in the design of a product or process may contribute to the enhancement or uniqueness of the brand image. Moreover, differentiation strategy is by nature risky especially when management ignores the importance of the economies of scale and price competition during the implementation phase. Displaying exploitation efforts while differentiating may balance this risk. Jones and Butler (1988) show that an effective implementation of the differentiation strategy can raise demand, which would increase economies of scale. In another study, Frambach et al. (2003) emphasize the positive effect of differentiation strategy on the activities related to closely analysing competitors‘ cost structure and making responsive arrangements, which is somewhat similar to exploitation.

Apparently, exploitative innovation efforts may lead to important refinements that contribute to the goals of a differentiation strategy. However, these efforts can also have such results consistent with the goals of low cost strategy. Therefore, we purport that those firms that select low cost strategy would incline to pursue exploitative innovation efforts when compared to those that follow differentiation strategy. In other words, although both generic strategies increase exploitative efforts, low cost strategy is more influential.

H_4: Low Cost Strategy increases Exploitative Innovation Efforts more than Differentiation Strategy does.

3.1.3 Effects of Combination Strategy on Ambidextrous Innovation Efforts

Individual innovation efforts hypothesized above are matched with a specific generic strategy. However, previous literature on innovation efforts as well as on generic strategies advises that such a specific selection is not essential. Instead of choosing a generic strategy, both innovation efforts may be tried to pursue i.e. combination strategy, and then both could be implemented at the same time i.e. ambidextrous innovation efforts in order to benefit from their complementary effects.

Concerning the combination strategy, it may be argued that differentiation and low cost strategies compete against each other, as they require different management styles and resources; and pursuing both at the same time may risk firms to be stuck in the middle. But, if managed successfully, risk may bring better returns along, i.e. seemingly contradictory strategies may also complete each other. Pursuing differentiation simultaneously with low cost strategy may prevent a firm from defenselessness, or a low cost strategy enriched with differentiation strategy strengthens firms' position with value-creating activities (Acquaah and Yasai-Ardekani, 2008). By using the advantage of this synergetic effect, combination strategy becomes more powerful, more robust as well as provides long-term success. Empirical studies show that combination strategy empower different aspects of performance more than individual strategies, such as firm's general performance (Pertusa-Ortega et al., 2009) adaptive capacity (Miller and Dess, 1993), profitability (Spanos et al., 2004) and growth (Leitner and Güldenberg, 2010). Once armed with a combination strategy, firms may then pursue both innovation efforts at the same time, i.e. ambidexterity, instead of trying to match one generic strategy to a unique innovation effort. Ambidexterity seems easier with a stronger combination strategy. Therefore, unlike previous literature we highlight the comparative effects of combination, differentiation and low cost strategies on ambidextrous innovation efforts.

H_5: Combination Strategy increases Ambidextrous Innovation Efforts more than both Differentiation and Low Cost Strategies do

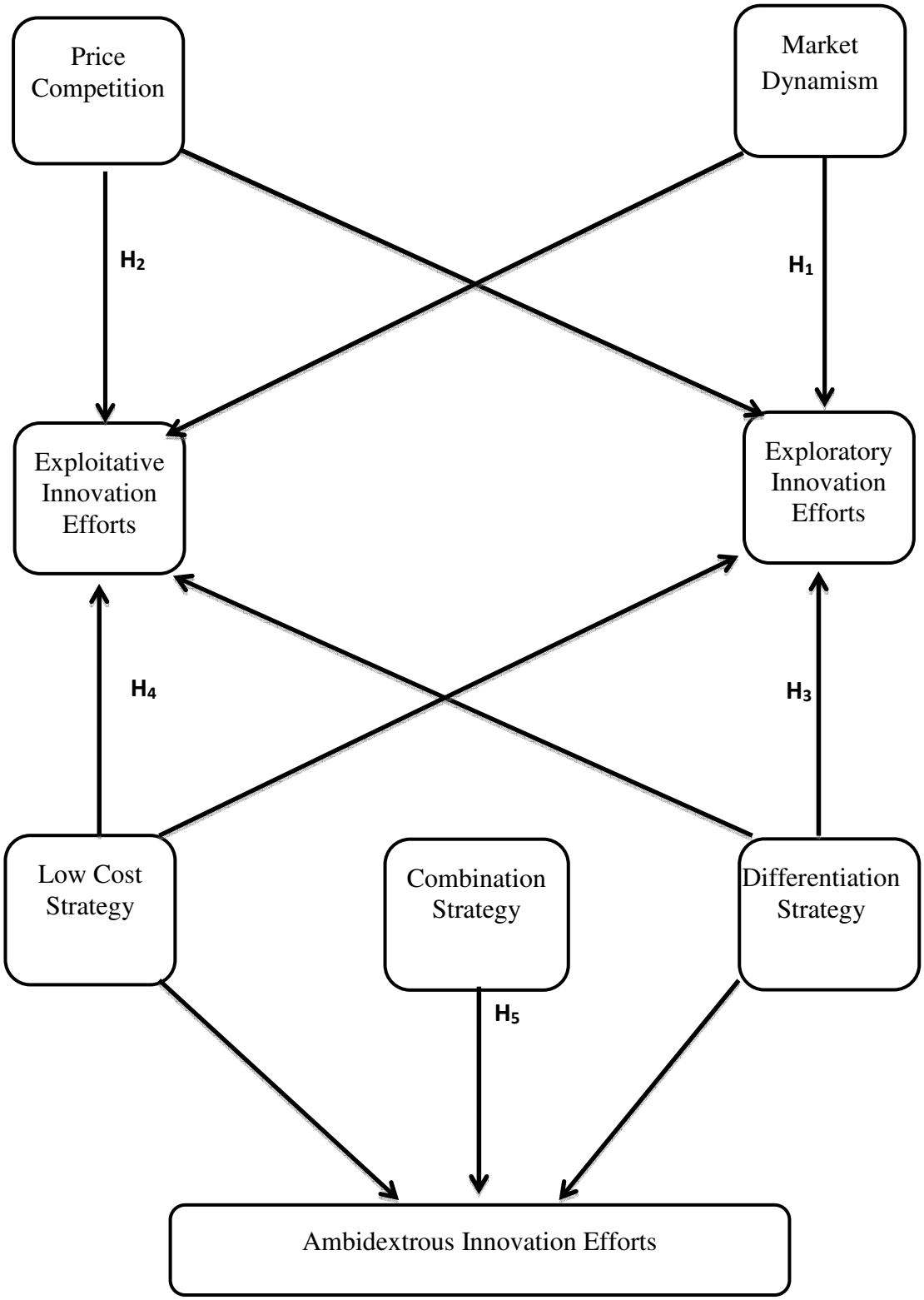


Figure 3.1 Antecedents of Ambidextrous Innovation Efforts (Theoretical Model 1)

4. EFFECTS OF INNOVATION EFFORTS ON FIRM PERFORMANCE

Due to rapidly changing technological environment and customer demands, firms have to select the most suitable innovation efforts in order to survive and strengthen competitive advantages. In this context, the relationships among exploitative, exploratory, ambidextrous innovation efforts and performance criteria are examined in the recent literature from various perspectives (Gibson and Birkinshaw, 2004; Lubatkin et al., 2006; Jasmand et al., 2012; Alpkan et al., 2012; Hsu et al., 2013, etc.). Exploitative innovation efforts focus on satisfaction of current customers, refinement of products or processes with the help of current capabilities (technology, marketing strategies, segmentation tactics, etc.) (Kyriakopoulos and Moorman, 2004). The focal points of exploitation are efficiency, small adaptations and improvements in existing components (Alpkan et al., 2012). On the other hand, exploratory innovation efforts deal with ground-breaking changes in technology or processes (Benner and Tushman, 2003; Fang et al., 2011). Main objective of exploration is satisfying emergent customers and markets (Daneels, 2002). Such efforts concentrate on adaptation to environment with fundamental changes. As for ambidextrous innovation efforts, they refer to pursuing exploitative and exploratory innovation efforts simultaneously. Ambidextrous innovation efforts enable developing new products and increasing the efficiency of current capabilities concurrently. In other words, such efforts provide achieving the goals of both exploitative and exploratory innovation efforts together. As seen, exploitative, exploratory and ambidextrous innovation efforts are all effective but under different contingencies. Thus, managers should choose the most appropriate one concerning both the environmental conditions of the market place and the strategic performance goals of the firms.

Examining innovation efforts-performance relationships is one of the primary research areas in recent literature. Although performance is a wide-ranging multidimensional construct (Siren et al., 2012) it can be generally categorized as

market and financial performance. Market performance concerns operational effectiveness and competitiveness measures such as market share or total sales. As for financial performance, it is associated with accounting-based criteria such as profitability (Gentry and Shen, 2010). Today, scholars underline the fact that, instead of focusing only on one indicator, realizing different dimensions of performance leads to superior performance (Schmitt et al., 2010; Siren et al., 2012). Here we examine the impacts of exploratory, exploitative and ambidextrous innovation efforts on market performance and financial performance separately.

4.1 Research Design and Hypotheses

4.1.1 Moderator Effect of Market Dynamism on the Innovation Efforts – Market Performance Relationship

The basic criteria of market performance, effectiveness and competitiveness, are main goals of exploratory innovation efforts. Exploratory innovation efforts meet these goals with differentiating from competitors with unique and valuable products by using new technology (Yamakawaa et al., 2010) and supporting creativeness, R&D and flexibility (Levinthal and March, 1993; Jansen, et al., 2006). Additional competitive advantage and market share result in increased market performance. Accordingly, scholars have already expressed the positive relationship between exploratory innovation efforts and market performance (Atuahene-Gima and Murray, 2007; Liu et al., 2010). However, we claim that performance impacts of the innovation efforts are also influenced by market-related conditions. It is known that implementing the right strategy, activity or effort in appropriate market conditions increases performance (Jasmand et al., 2012). Moreover, level of dynamism is accepted as an important boundary condition (Raisch and Birkinshaw, 2008) that directly affects the decisions about innovation activities (Chang and Hughes, 2012; Tsai and Yang, 2013).

Dynamic markets are shaped with rapid changes in technology and customer demands (Porter 1980; Jansen et al., 2006; Nandakumar et al., 2010). Thus, current products and competencies deteriorate in a very short period of time (Danneels 2002; Yang and Li 2011).

In dynamic markets,

(1) Predicting the range of outcomes is doubtful (McGrath, 2001).
(2) Adaptation is the key requirement in accordance with the uncertainty and unpredictability arising from unexpected changes in such markets. For a successful adaptation process, firms first seize opportunities-threats in the environment and analyze competitors' behaviours; then, they generate new solutions to problems and even reconfigure their structures (Teece et al., 1997).
(3) Business models are not perfectly clear.
(4) New players can quickly replace the old ones in the sector.

Based upon these reasons, dynamism causes serious management challenges. In order to cope with these challenges, firms have to continuously rely on creativity (Tsai and Yang, 2013), renew products with innovative solutions (Liu et al., 2010) and develop state of the art technology for latent customer satisfaction (Chang et al., 2011; Jiao et al., 2013).

Level of dynamism in the environment plays a critical role on deciding appropriate innovation efforts or activities (Chang and Hughes, 2012; Tsai and Yang, 2013). For instance, exploratory innovation efforts are seen as more effective in highly dynamic markets (Jansen et al., 2006). Dynamism increases the potential benefits of these efforts on performance (Gupta et al., 2006; Uotila et al., 2009). Scholars have already showed that the relationship between exploratory innovation efforts and adaptation-effectiveness factors is stronger in highly dynamic environments (Özsomer and Gençtürk, 2003), which may lead to market performance. With taking all these into account, we argue that market dynamism moderates exploratory innovation-market performance relationship.

H_6: Exploratory Innovation Efforts increase Market Performance when Market Dynamism is high

Significant correlation of exploitative innovations with market performance is also expressed in previous studies as well (Atuahene-Gima and Murray, 2007). Exploitative innovation efforts basically provide lowering costs with the help of efficiency and refinements. Lower costs enable products with lower prices. In sectors where customers are sensitive to price, firms can reach to higher market share and total sales with such products. Accordingly, exploitative innovation efforts have direct impacts on market performance. For instance, Jansen et al (2006) confirm the effects of exploitative innovation efforts on customer loyalty, which is a part of market performance. However, the relationship between these efforts and market performance might also depend also on market dynamism level.

Relatively low dynamic markets are shaped with slower changes in customer preferences and technological progress. The rates of technological progress and changes decrease in customer preferences decrease. In such markets, dominant product design and process technologies are usually more clear. Besides, major customers and competitors are better known (Massini, 2004; Lin et al., 2007). As the environment does not change suddenly, both risk threats and adaptation problems lose their priorities in strategic decision-making. Continual but incremental improvements in current products or competencies become more important and necessary (Li and Liu, 2014). When low levels of change rates lead to greater competitive stability, managers try to exploit their existing capabilities in order to achieve higher performance (Koza and Lewin, 1998; Yamakawaa et al., 2010). In accordance with decreased risk level, predictability is increased. Most managers direct firms' resources to current core competencies instead of new business lines in order to strengthen their current position (Li and Liu, 2014). With decreased risk and increased predictability, firms can achieve customer loyalty and establish a stronger competitive advantage through in-depth exploitation, which is based on improvements, refinements and cost reductions (Gupta et al., 2006; Lin et al., 2007). The effects of exploitative innovation efforts on customer loyalty are already confirmed in previous studies (Jansen et al., 2006). Besides, customer loyalty is also one of the measures of market dynamism. Customer loyalty is expected to be high in low dynamic markets. This may lead to a stronger relationship between exploitative innovation efforts and performance in low dynamic markets. Yang and Li (2011) argue that when the market is relatively stable, exploitative efforts provide keeping

up with current market through high efficiency and low costs. Many scholars recommend benefiting from exploitative innovation efforts under low market dynamism (Chang and Hughes, 2011; Gupta et al., 2006; Uotila et al., 2009; Yamakawa et al., 2010). Similarly, we propose that low market dynamism increases the impact of exploitative innovation efforts on market performance

H_7: Exploitative Innovation Efforts increase Market Performance when Market Dynamism is low.

Satisfying customers' latent needs while concurrently improving current products almost becomes a must in today's cutthroat competitive environment. Thus, firms try to focus on adapting to changes in the environment by creating new solutions and refining current processes at the same time (Jansen et al., 2005). This context paves the way for ambidextrous innovation *i.e. pursuing exploitative and exploratory innovation efforts simultaneously* (He and Wong, 2004; Jansen et al., 2006). Instead of relying on a single innovation effort, implementing exploitative and exploratory innovation efforts together provides firms a powerful synergetic leverage. With the help of this leverage, ambidextrous efforts transform the challenges of managing two seemingly contradictory efforts into opportunities. Consequently, ambidextrous efforts enhance short and long-term performance (Tushman and O'Reilly, 1996), protect firms from obsolescence (Kyriakopoulos and Moorman, 2004) provide sustainability (Lubatkin et al, 2006) and strengthen firms' competitive advantage (Cantarello et al., 2012). Therefore, ambidexterity has a superior effect on firm performance. Particularly, researchers show the positive effects of ambidextrous efforts on market performance in terms of customer satisfaction (Şimşek et al., 2009), sales (He and Wong, 2004; Jasmand et al., 2012), revenues and productivity growth (Lin et al., 2007). However, a contingency perspective may help us to grasp a detailed picture of the relations, so moderator role of market dynamism on the ambidexterity-market performance relationship should also be considered. Dynamism brings about two opposite requirements on firms: flexibility and efficiency (Lin et al., 2007). Meeting these requirements is possible with combining exploratory and exploitative efforts. This combination provides a broader vision and improves performance (Schmit et al., 2010) especially in dynamic

markets (Jansen et al., 2005). Consequently, managers tend to pursue ambidextrous innovation efforts in highly dynamic markets in order not to face significant performance penalties (McGrath, 2001; Raisch and Birkinshaw, 2008; Rothaermel and Alexandre, 2009). We similarly propose that high market dynamism increases the impact of ambidextrous innovation efforts on market performance.

H_8: Ambidextrous Innovation Efforts increase Market Performance when market dynamism is high.

4.1.2 Moderator Effect of Firm Size on the Innovation Efforts – Financial Performance Relationship

In this section, we analyze the relationships between innovation efforts and financial performance. As mentioned before, financial performance metrics concentrates on accounting-based measures such as profitability, return on investments, return on assets, etc. These measures help managers assess how efficiently the firm uses its resources and capabilities (Rothaermel and Alexandre, 2009). They are also used to control whether the firm achieves its economic goals (Gentry and Shen, 2010). There are many studies expressing the positive effects of exploitative, exploratory and ambidextrous innovation efforts on financial performance from different perspectives (Lin et al., 2013; Liu et al, 2010; Morgan and Berthon, 2008; Şimşek et al, 2009; Siren et al., 2012). For a better financial performance, one perspective could be focusing on cost efficiency that can be achieved through exploitative innovation efforts. Another option for superior financial performance is focusing on price premium that can be achieved through exploratory innovation efforts (Auh and Mengüç, 2005). In order to decide on the appropriate option, some other factors that can directly affect the relation among innovation efforts and financial performance should also be considered.

Size is an important factor for meeting financial goals (Rothaermel and Alexandre, 2009). Performance impacts of innovation efforts differ depending on the size of the firms (Chang et al., 2011). It is possible to classify the firms as SMEs and large firms according to their size. These firms differ in their organizational structures, managerial expertise, leadership styles, available resources and decision-making dynamics (Chang and Hughes, 2012; Ebben and Johnson, 2005). More specifically, when examining the differences between SMEs and large firms, we observe that human and financial capitals of SMEs are limited compared to larger firms. SMEs are less bureaucratic and diversified (Ebben and Johnson, 2005). Fewer formal systems and fewer planning activities mean a more flexible organizational structure. Accordingly, adapting to environmental changes is more quick and easier for SMEs rather than large firms. Given that flexibility is the vital point of achieving successful exploratory innovation efforts, adaptation capabilities arising from less bureaucracy and less formal procedures facilitate meeting the goals of these efforts. In this context, we argue that structural features of SMEs will enhance the relationship between exploratory innovation efforts and financial performance.

H_9: Exploratory Innovation Efforts increase Financial Performance in SMEs.

Large firms have obviously bigger financial capitals compared to SMEs. With the help of this capital, such firms can make large fixed-asset investments and benefit from the advantages of economies of scale easily. Economies of scale and large production capacity can increase the effectiveness of cost reduction, refinement and efficiency efforts (Ebben and Johnson, 2005; Yamakawa et al., 2010). In this context, larger firms are more likely to implement exploitative innovation efforts in order to achieve efficiency (Uotila et al, 2009), which is related to financial performance (Rothaermel and Alexandre, 2009). Drawing on previous studies, we argue that in large firms exploitative innovation efforts enhance financial performance.

H_{10}: Exploitative Innovation Efforts increase Financial Performance in large firms.

Ambidextrous firms focus on both refining current processes for the purpose of achieving efficiency and adapting to changes in the environment with creative solutions (Jansen et al., 2005). Thus, such firms gain superior financial performance with the help of simultaneous combination of these two seemingly contradictory but indeed complementary efforts (Chandrasekaran and Linderman, 2012; Liu et al., 2010). As a matter of fact, this combination causes serious trade-offs arising from the tensions between exploitative and exploratory innovation efforts. Overcoming these tensions requires rich slack resources. At this point, size factor plays a critical role on to what extent ambidexterity enhances performance because this factor directly specifies resource constraints of the firms (Lin et al., 2007). Large firms equipped with larger resources will have less difficulty in overcoming the challenges of ambidextrous efforts (Andriopoulus and Lewis, 2009; Chang et al., 2011). Accordingly, benefits of ambidextrous efforts will increase in large firms (Jansen et al., 2005; Lin et al., 2007; Russo and Vurro, 2010). As a result, we propose that performance impacts of ambidextrous innovation efforts are influenced by firm size.

H_{11}: *Ambidextrous Innovation Efforts in large firms increase Financial Performance more than in SMEs.*

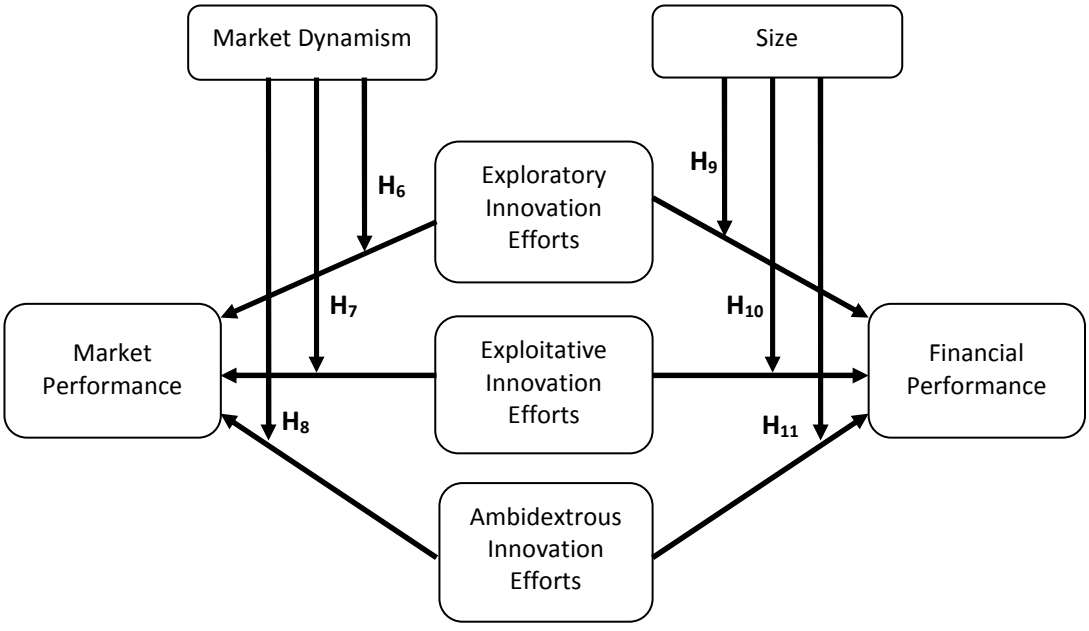


Figure 4.1 Moderation Effect of Market Dynamism and Size on Innovation Efforts-Prerformance Relationships (Theoretical Model 2)

5. METHODOLOGY

This section figures out the research methodology of the thesis. Measures, data collection methods, sampling unit and sample sizes are discussed in detail.

Empirical data to test our hypotheses have been obtained through a survey of face-to-face interviews with top managers. A structured questionnaire is conducted to measure theoretical constructs. We work on a sample of 431 firms in Istanbul (Turkey). Whereas the average age of firms in the sample is 22, the average number of employees is 533. The survey has been applied to both manufacturing sector (60 %) and service sector (40 %). While 351 of the firms are SMEs (up to 250 full-time employees), 80 of them are large firms (250 and above full-time employees). Our sample consists of various sectors such as automotive, electronics, construction and textile.

5.1 Measures

Our study consists of eight main constructs including two environmental conditions (market dynamism and price competition), two generic strategies (low cost and differentiation strategies), two innovation efforts (exploitative, exploratory) and two firm performance measures (market and financial performance).

Market Dynamism is measured with rapid changes in technology, customer demands, products and competitive methods, while Price Competition scale is shaped with competitive intensity among various competitors, cost reduction and efficiency pressures. Differentiation Strategy is measured with targeting specialty goods, different services, products or procedures from rivals and establishing a strong brand image. The general goals of cost efficiency and reduction are used to measure Low Cost Strategy. Multiplication of Differentiation and Low Cost

Strategies is applied to measure Combination Strategy. Exploitative innovation efforts scale consists of six criteria concerning continuous improvement of current capabilities, products, technologies and efficiency. Seven indicators about the firms' ability of generating creative solutions and intensity degree of developing new products, technology and competition methods form exploratory innovation efforts scale. Ambidextrous Innovation Efforts is measured with the multiplication of Exploratory and Exploitative Innovation Efforts. Financial performance scale consists of return on assets (ROA), return on sales (ROS), return on investments (ROI), and total profits. And lastly, market performance scale consists of competitiveness, market share and total sales. Respondents assess the performance scales with the increases of measures for the last three years.

Our constructs and scales have been adapted from previous studies and listed in Table 5.1. On the other hand, we control two factors -firms' size and age- in contemplation of their influences on innovation efforts.

Table 5.1 Scales Adapted From Previous Studies

Constructs	**Scales Adapted From**
Market Dynamism	Kohli et al (1997), Aytekin (2003), Mengüç and Auh (2008), Doğan (2008)
Price Competition	Aytekin (2003), Jansen et al. 2006, Doğan (2008)
Differentiation Strategy	Miller (1986), Frambach et al. (2003), Li and Lin (2008)
Low Cost Strategy	Miller (1986), Frambach et al. (2003), Kaya et al. (2003), Aytekin (2003), Acquaah and Y-Arkedani (2008), Li and Lin (2008)
Explorative Innovation Efforts	He and Wong (2004), Jansen et al. (2006), Şanal (2011)
Exploitative Innovation Efforts	He and Wong (2004), Jansen et al. (2006), Şanal (2011)

5.2 Factor Analyses and Reliabilities

In order to ensure the validity of the gathered data, we conduct factor analyses using varimax rotation and observe items' groupings concerning their relationships. All items are measured with five point Likert scales with anchors strongly disagree (1) and strongly agree (5). Items are loaded cleanly on eight separate factors with eigenvalues larger than 1. Then, we test internal consistency and reliability of factors with specifying the Cronbach's Alpha coefficients. These coefficients for all factors range from 0,784 to 0,924.

Factor Analyses and Reliability of all our constructs are listed in Table 5.2

Table 5.2 Factor Analyses and Reliabilities of Main Constructs

Factors	**Loads**
Low Cost Strategy (Alpha=.0,85; Variance Explained: 26.931)	
Controlling and keeping down our costs for all internal processes such as production, storage, etc.	.707
Reducing our unit costs in comparison to our competitors	.697
Reducing costs of all operations in our organization	.690
Controlling and keeping down our costs for all external processes such as supplying, distribution, etc.	.678
Reducing our unit costs through achieving high production and sales volume	.675
Reducing our input costs through high volume purchase (central, composite, large amount, etc.)	.671
Gaining ability to reduce the unit sales prices more than the competitors do	.656
Increasing capacity utilization rate in all our processes	.557
Increasing efficiency in all our processes	.527
Differentiation Strategy (Alpha=0,784; Variance Explained: 20.766)	
Increase the value of our organization through customers' eyes	.725
Differentiating from our competitors with quality of our products or services	.704
Creating a strong brand image which cannot be easily imitated by our competitors	.699
Differentiating our product and services from our competitors'	.696
Providing our customers with more beneficial products and services than our competitors'	.628
Improving the image of our products and services on the eyes of our customers	.575

Total Variance Explained: %47.697

Rotation Method: Varimax

Exploratory Innovation (Alpha=.0,862; Variance Explained: 29,526)	
Develop and implement new processes	.746
Develop and implement new marketing operations	.736
Develop and implement new competing methods	.707
Develop and put new products and services on the market	.705
Create new expectations and needs for customers	.693
Develop and implement new technological capabilities	.681
Create new and creative solutions to customers' problems	.668
Exploitative Innovation Efforts (Alpha=0,874; Variance Explained: 28,413)	
Sustain current technological capabilities by enhancing	.778
Improve current processes continuously	.766
Improve current products and services continuously	.748
Force to get highest benefits from current investments in products, services, processes	.743
Sustain current competing methods by enhancing	.723
Improve current marketing activities continuously	.714
Total Variance Explained: %57.9738	
Rotation Method: Varimax	

Market Dynamism (Alpha=.0,878; Variance Explained: 30,965)	
From customer's perspective, products/services quickly become old-fashioned.	.811
Strategies of our competitors change rapidly.	.772
The speed of product/service renewal in the market is very high.	.765
Applied sales and marketing techniques change rapidly.	.748
Used technologies change rapidly.	.743
Customers' expectations and demands change rapidly.	.709
Customers always expect new products/services.	.694
Firm and brand orientated customer loyalty is not very high.	.584
Price Competition (Alpha=0,792; Variance Explained: 21,722)	
Intensity of competition in this market is generally very high.	.762
There is an intense price competition among firms in the sector.	.743
Customers are generally price sensitive.	.730
Customers look for suitable price in their purchase decisions.	.694
We are in a cutthroat price competition with our competitors	.645
Unit profit margin in the sector is not very high	.615
Total Variance Explained: %52.687	
Rotation Method: Varimax	

Market Performance (Alpha=.0,882; Variance Explained: 22,201)	
Increases in general market performance	.861
Increases in competitiveness of the firm	.861
Increases in market share	.834
Increases in total sales	.726
Financial Performance (Alpha=0,924; Variance Explained: 55,598)	
Increases in ROA	.880
Increases in ROS	.872
Increases in ROI	.854
Increases in total profits	.854
Total Variance Explained: %77.799	
Rotation Method: Varimax	

5.3 Test of Hypotheses

The details of correlations and regression analyses of two models in this thesis have been discussed one by one in the next sections 5.3.1, 5.3.2, 5.3.3 and 5.3.4 respectively.

5.3.1 Correlations among Variables of Theoretical Model 1

In order to test the hypotheses of our first model in Figure 3.1, we first conduct correlation analysis shown in Table 5.3. According to this table it is important to underline some interesting observations considering the one-to-one relations among variables. For instance, it is seen that pure generic strategies are less related to innovation efforts compared to combination strategy as an evidence of combination strategy's synergetic effort. Furthermore, the effect sizes of external factors on innovation efforts are less than that of the generic strategies. Control variables (firm size and age) are not related to the study variables except for market dynamism. Variance analyses show no difference among business sectors considering strategies and innovation efforts.

Table 5.3 Descriptive Statistics and Correlations among Variables (N=431)

	VARIABLES	Mean	Std. Deviation	1	2	3	4	5	6	7	8	9
1	**Firm Size**	533,05	2954,294									
2	**Firm's Age**	22,20	20,209	,342**								
3	**Market Dynamism**	3,8670	,77453	-,071	-,156**							
4	**Price Competition**	4,0629	,72730	,007	-,028	,273**						
5	**Differentiation Strategy**	4,4770	,50705	,042	,025	,126**	,209**					
6	**Low Cost Strategy**	4,2915	,55294	-,073	-,058	,283**	,201**	,456**				
7	**Combination Strategy**	19,340	3,76489	-,026	-,021	,240**	,232**	,817**	,877**			
8	**Exploratory Innovation Efforts**	4,0961	,62702	-,067	-,081	,331**	,313**	,358**	,374**	,422**		
9	**Exploitative Innovation Efforts**	4,2375	,60080	-,053	-,044	,363**	,258**	,376**	,539**	,536**	,575**	
10	**Ambidextrous Innovation Efforts**	7,573	4,37009	-,071	-,070	,381**	,329**	,401**	,502**	,529**	,891**	871**

** Correlation is significant at the 0.01 level (2-tailed).

5.3.2 Regression Analyses and Findings of Theoretical Model 1

After observing the reliabilities and correlations of variables, we test our structural model. The results of regression analyses are depicted in Table 5.4.

Model 1 in Table 5.4 tests the effects of control variables, environmental conditions and generic strategies on exploratory innovation efforts. Accordingly, the impact of Market Dynamism (β=0,189; p<0.01) on Exploratory Innovation Efforts is more powerful than Price Competition (β=0,177; p<0.01), while control variables are ineffective. So, **H_1 is supported**. Model 2 tests the effects of control variables, environmental conditions and generic strategies on exploitative innovation efforts. It is observed that the effect of Price Competition (β=0,09; p<0.01) on Exploitative Innovation Efforts is lower than the effect of Market Dynamism (β=0,208; p<0.01). Thus, **H_2 is not supported**. Regarding this unexpected result, we suspect the tight relationship between market dynamism and innovation. Market dynamism is certainly an important trigger for innovation (Hannan and Freeman, 1984; Pandey and Sharma 2009; Pérez-Luño et al., 2011). Moreover, Jansen et al. (2005) similarly show the dominant effect of market dynamism compared to other environmental antecedents of ambidexterity. Although price competition also affects innovative efforts in a firm, the strong effect of market dynamism may overshadow price competition.

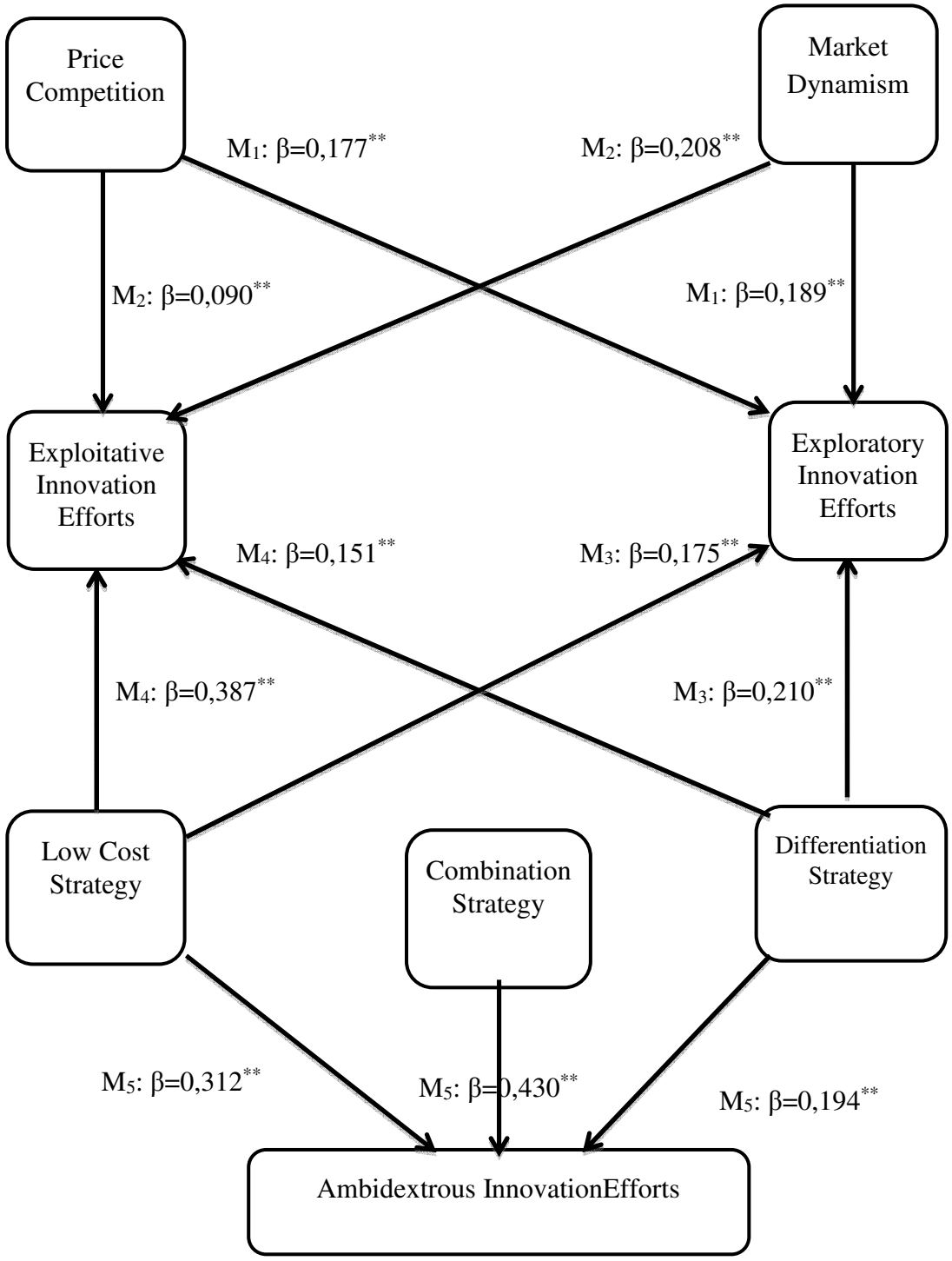
On the other hand, as for the relations between generic strategies and innovation efforts, again in Model 1, it is found that the influence of Differentiation Strategy (β=0,210; p<0.01) on Exploratory Innovation Efforts is stronger than that of Low Cost Strategy (β=0,175; p<0.01), which **supports H_3**. Besides, Model 2 shows that Low Cost Strategy (β=0,387; p<0.01) affects Exploitative Innovation Efforts more than Differentiation (β=0,151; p<0.01) does, so **H_4 is supported**.

Model 3 and Model 4 test the relative effects of Generic Strategies and Combination Strategy on Ambidextrous Innovation Efforts. Accordingly, the effect of Combination Strategy (β=0,430) on Ambidextrous Innovation Efforts is more than both the effects of Low Cost (β=0,312) and Differentiation Strategies (β=0,194), which supports H5. Found relations are all together depicted in Figure 5.1.

Table 5.4 Antecedents of Innovation Efforts

VARIABLES	Model 1	Model 2	Model 3	Model 4
	Exploratory Innovation Efforts	Exploitative Innovation Efforts	Ambidextrous Innovation Efforts	Ambidextrous Innovation Efforts
Control Variables				
Number of Employees	-0.025	0.018	-0.047	-0.050
Firm's Age	-0.05	-0.026	-0.003	-0.004
Independent Variables				
Market Dynamism	0.189**	0.208**	0.215**	0.224 **
Price Competition	0.177**	0.090*	0.165 **	0.165 **
Differentiation Strategy	0.210**	0.151**	0.194 **	-
Low Cost Strategy	0.175**	0.387**	0.312 **	-
Combination Strategy	-	-		0.430 **
Adjusted R^2	0.242	0.346	0.355	0.354
F value	23.615 **	38.521 **	39.924 **	47.577 **

*** Standardized β Coefficient is significant at 0.01 level*



** *β Coefficient* is significant at 0.01 levels

Figure 5.1 Empirical Model 1

5.3.3 Correlations among Variables of Theoretical Model 2

In the next stage of the thesis, we test our second structural model shown in Figure 4.1. For this purpose we first observe the correlations among variables that are given in Table 5.5. Accordingly, some interesting relations are observed. For instance, while firm size is related to neither innovation efforts nor performance, market dynamism is related to each innovation effort but not to any performance criteria. Besides, exploitative and exploratory innovation efforts are strongly correlated to each other, meaning they are not contradictory but complementary. Although each innovation effort and performance relation is strong, ambidexterity and performance relations are stronger than that of exploitative or exploratory innovation efforts.

Table 5.5 Descriptive Statistics and Correlations among Variables (N=431)

	VARIABLES	Mean	Std. Deviation	1	2	3	4	5	6
1	Firm Size	533,05	2954,2						
2	Market Dynamism	3,867	0,774	-,071					
3	Exploratory Innovation Efforts	4,0961	0,627	-,067	331**				
4	Exploitative Innovation Efforts	4,2375	0,600	-,053	,363**	,575**			
5	Ambidextrous Innovation Efforts	17,573	4,370	,-,071	,381**	,891**	71**		
6	Market Performance	4,1400	0,723	-,039	,085	,309**	15**	,352**	
7	Financial Performance	3,9969	0,867	-,009	,084	,177**	51**	,189**	556**

*** Correlation is significant at the 0.01 level (2-tailed).*

5.3.4 Regression Analyses and Findings of Theoretical Model 2

We test our structural model with two analyses. First one concerns the moderator effect of market dynamism on innovation efforts-market performance relations and can be seen in Table 5.6. Model 1 and Model 2 in Table 5.6 represent different levels of dynamism. Low dynamism situation is considered when market dynamism scores are lesser than the mean (3,867). According to the results, exploratory innovation efforts affect market performance (β=0,292; p<0.01) when the dynamism is high, which **supports H_6**. Besides, exploitative innovation efforts increase market performance when market dynamism is low (β=0,316; p<0.01), which **supports H_7**. Lastly, as seen in Model 3 and 4, the effect of ambidextrous innovation efforts on market performance is more powerful in highly dynamic markets (β=0,382; p<0.01) compared to low dynamic markets (β=0,309; p<0.01), which **supports H_8**.

Table 5.6 Moderator Effect of Market Dynamism on Innovation Efforts – Market Performance Relationship

	Market Performance			
Independent Variables	**Model 1** **Low Dynamism**	**Model 2** **High Dynamism**	**Model 3** **Low Dynamism**	**Model 4** **High Dynamism**
Exploratory Innovation Efforts	0.033	0.292**	-	-
Exploitative Innovation Efforts	0.316**	0.150*	-	-
Ambidextrous Innovation Efforts	-	-	0.309 **	0.382 **
Adjusted R^2	0.99	0.149	0.089	0.143
F value	8.421 **	26.769 **	14.165 **	50.072 **

** *Standardized β Coefficient* is significant at 0.01 level

* *Standardized β Coefficient* is significant at 0.05 level

The second analysis concerns the moderator effect of firm size on innovation efforts-financial performance relations. The results of this analysis are depicted in Table 5.7. Model 5 and Model 6 in Table 5.7 show the effects of innovation efforts on financial performance in SMEs and in large firms respectively. According to the results, we find a significant impact of exploratory innovation efforts on financial performance (β=0,122; p<0.05) in SMEs, which **supports H_9**. Besides, exploitative innovation efforts increase financial performance in large firms (β=0,534; p<0.01), which **supports H_{10}**. As seen in Model 7 and 8, effect of ambidextrous innovation efforts on financial performance is more powerful in large firms (β=0,491; p<0.01) than that of SMEs (β=0,145; p<0.01), which **supports H_{11}**.

Table 5.7 Moderator Effect of Size on Innovation Efforts–Financial Performance Relationship

	Financial Performance			
Independent Variables	**Model 5 (SME)**	**Model 6 (Large Firms)**	**Model 6 (SME)**	**Model 7 (Large Firms)**
Exploratory Innovation Efforts	0.122 *	-0.027	-	-
Exploitative Innovation Efforts	0.042	0.534 **	-	-
Ambidextrous Innovation Efforts	-	-	0.145 **	0.491 **
Adjusted R^2	0.016	0.242	0.018	0.231
F value	3.9 *	13.475 **	7.522 **	24.493 **

** *Standardized β Coefficient* is significant at 0.01 level

* *Standardized β Coefficient* is significant at 0.05 level

6. CONCLUSION

In this thesis, we concentrate on the interactions among environmental conditions, generic strategies, innovation efforts and firm performance with a broad perspective. We look for the answers of two research questions. The first question is "what are the antecedents of innovation efforts?" For the purpose of finding answers of this question, we observe the effects of environmental factors, generic strategies and combination strategy on innovation efforts but notably on ambidextrous innovation efforts. We hereby aim to provide a better understanding about the dynamics of ambidextrous innovation, which has a complex structure in line with the contradictory nature of exploratory and exploitative innovation efforts. In this regard, we have five important findings about this question:

(1) Market dynamism increases exploratory innovation efforts more than price competition does

(2) Market dynamism increases exploitative innovation efforts more than price competition does

(3) Differentiation strategy increases exploratory innovation efforts more than low cost strategy

(4) Low cost strategy increases exploitative innovation strategy more than differentiation

(5) Combination strategy increases ambidextrous innovation effort more than both low cost and differentiation strategy

With the help of these findings, we present new insights for implementing innovative efforts more effectively and suggest important managerial implications. For instance, those managers who plan to apply ambidextrous innovation efforts in competitive markets where especially dynamism is dominant should try to pursue combination strategy. On the other hand, managers should attend to the level of dynamism in the market no matter what they focus on, either exploratory or exploitative innovation efforts. Furthermore we believe that assessments on

dynamics of the innovation efforts and generic strategies would help managers to cope with the challenges of ambidextrous innovation efforts.

Our second research question is “how do the environmental conditions and firm size affect the relationship between innovation efforts and firm performance?”. For the answers to this question, we discuss the moderator effect of market dynamism and firm size in the relation of exploitative, exploratory, ambidextrous innovation efforts to market and financial performance. Depending on the regression analysis we conclude following important results:

Considering market dynamism, when it is high, both exploration and exploitation seems significant for achieving better market performance. However, the contribution of exploration is more dominant than exploitation. This can be explained firstly by answering to the expectations of high dynamic markets via new technologies, products, processes, services, etc. and secondly by not neglecting efficiency-oriented refinements and improvements. When dynamism is low in the market, exploitative innovation efforts increase market performance. In lowly dynamic markets, relatively slow changes in technology and customer demands lead to decreased risk and increased predictability. Accordingly, firms can achieve a stronger market performance through in-depth exploitation, which is based on improvements, refinements and cost reductions. There is no significant effect of exploration on market performance in these markets. On the other hand, ambidextrous innovation is the best solution for superior market performance in high dynamic markets in comparison with the low ones. According to our findings exploration and exploitation seems seperately significant separately on their own in high dynamic markets, which is also in line with the expected synergetic effect of the ambidexterity. However, in low dynamic markets there is no synergetic effect of ambidexterity, where the market performance is mainly achieved by sole contribution of exploitation.

Considering firm size, for better financial performance exploratory innovation efforts are most suitable choice in SMEs. This may depend on flexible structure of SMEs that allows favorable environment for new developments. In large firms, contrary to SMEs, exploitative innovation efforts have a strong influence on financial performance. This can be explained via large firms’ relatively bureaucratic structures, mature processes, slower decision making mechanisms, etc. When

looking at the effect of ambidexterity, although we see that it has positive effect on financial performance of both SMEs and large firms, it is significantly more powerful in large firms. This is in line with the previous discussions of scholars; large firms are more capable of organizing their resources in order to implement contradictory innovation efforts successfully and consequently benefit from the advantages of ambidexterity (Andriopoulus and Lewis, 2009; Chang and Hughes, 2011; Jansen et al., 2005; Lin et al., 2007; Russo and Vurro, 2010).

The answers to our second question also offer several important managerial implications. For instance, managers should realize that each innovation effort surely has an individual impact on both market and financial performance but their impacts differ according to internal and external conditions. Thus, considering firm size and environmental dynamism in deciding on the most suitable innovation effort will facilitate achieving performance goals *i.e. market performance or financial performance*. Furthermore, in accordance with the moderator effects of internal and external factors, resources among efforts should be allocated carefully in order to maximize market or financial performance.

When dynamism level of the market is a decision criterion for managers, they should pursue ambidexterity as it significantly increases market performance in highly dynamic markets. If it is not possible, either exploration or exploitation works respectively by its own in these markets. In low dynamic markets the effective solution will be concentrating solely on exploitative innovation efforts; there is no significant contribution of exploration. On the other hand, when firm size is a decision criterion for managers, they should pursue ambidexterity since it increases financial performance both in SMEs and large firms. But if it is not possible to implement ambidexterity, exploitation in large firms and exploration in small firms work better.

As for the limitations of this study, the moderator effect of market dynamism and firm size has been analyzed individually. In further studies, the combination of both moderator effects can be studied in tandem, which will distinguish the effect of firm size in high and low dynamic markets respectively. Samples in our study consist of data from various sectors for the purpose of drawing the big picture. Further studies can focus especially on a specific industry or market to explore nature of the

relations in more detail. Survey data in this study are taken from the same respondent within each firm. In further studies particularly performance data may be collected from various sources, respondents or archives. Other types of external (e.g. environmental hostility) and internal (e.g. organizational slack) moderators and various aspects of firm performance including innovative performance may be added to the model. Our findings reflect only cross sectional evidence. Longitudinal data may be used to monitor the long-term outcomes. It can be interesting to focus especially on SMEs; hence in the long run they may evolve into large firms, and the findings will have strong importance to explain the potential differences on their two phases.

REFERENCES

Acquaah, M., Yasai-Ardekani, M., (2008), "Does the Implementation of A Combination Competitive Strategy Yield Incremental Performance Benefits? A New Perspective from A Transition Economy in Sub-Saharan Africa", Journal of Business Research, 61, 346-354.

Adler, P. S., Goldoftas, B., Levine, D. I. (1999). "Flexibility versus Efficiency: A Case Study of Model Changeovers in the Toyota Production System". Organization Science, 10, 43–68.

Alexiev, A.S., Jansen, J.J.P., Van den Bosch, F.A.J., Volberda, H.W., (2010), "Top Management Team Advice Seeking and Exploratory Innovation: The Moderating Role of TMT Heterogeneity", Journal of Management Studies, 47 (7), 1343-1364.

Aloini, D., Martini, A. (2013). "Exploring the Exploratory Search for Innovation: A Structural Equation Modelling Test for Practices and Performance". International Journal Technology Management, Vol. 61(1)

Alpkan, L. and Aren, S., 2009. Ambidexterity: The Combination of Seemingly Conflicting Priorities. 5th International Strategic Management Conference, Cape Town-South African, 02-03 July 2009.

Alpkan, L., Şanal, M., Ayden, Y., (2012), "Market Orientation, Ambidexterity and Performance Outcomes", International Conference on Leadership, Technology and Innovation Management, 461-468, Istanbul, Turkey, December.

Ancona, D. G., Goodman, P. S., Lawrence, B. S., Tushman, M. L. (2001). "Time: A New Research Lens", Academic Management Review, 26, 645-663.

Andriopoulos, C, Lewis, M.W (2009). "Exploitation-Exploration Tensions and Organizational Ambidexterity: Managing Paradoxes of Innovation". Organization Science, 20(4), 696–717.

Atuahene-Gima, K, Murray, JY (2007). "Exploratory And Exploitative Learning In New Product Development: A Social Capital Perspective on New Technology Ventures In China" Journal of International Marketing, 15(2), 1–29.

Auh, S., Mengüç, B., (2005), "Balancing Exploration and Exploitation: The Moderating Role of Competitive Intensity", Journal of Business Research, 58, 1652-1661.

Aytekin, M., (2003), "Relationships between Operations" and Competitive Strategies and their Performance Impacts". Doctoral Thesis, Gebze Institute of Technology.

Azadegan, A., Wagner, S. M. (2011). "Industrial upgrading, exploitative innovations and explorative innovations", International Journal of Production Economics, 130(1), 54-65

Balsam, S., Fernando, G. D., Tripathy, A., (2011). "The impact of firm strategy on performance measures used in executive compensation", Journal of Business Research, 64, 187-193.

Barney, J. B., Hesterly, W. S., (2010). "Strategic Management and Competitive Advantage", Prencite Hall, Third Edition.

Benner, M.J., Tushman, M.L., (2002), "Process Management and Technological Innovation: A Longitudinal Study of the Photography and Paint Industries", Administrative Science Quarterly, 47, 676-706.

Benner, M.J., Tushman, M.L., (2003). "Exploitation, Exploration And Process Management: The Productivity Dilemma Revisited". Academy of Management Review, 28 (2), 238-256.

Bennett, R. C., & Cooper, R. G. (1979). Beyond the marketing concept. Business Horizons, June, pp.76-83

Bledow, R. Frese, M. Anderson, N., Erez, M., Farr, J., (2009). "A Dialectic Perspective on Innovation: Conflicting Demands, Multiple Pathways, and Ambidexterity". Industrial and Organizational Psychology, 2, 305–337.

Blundell, R., Griffith, R., van Reenen, J., (1999). Market Share, Market Value and Innovation in a Panel of British Manufacturing Firms, Review of Economic Studies, 66 (3), 529-554.

Burgelman, R.A. (1991), "Intraorganizational Ecology of Strategy Making and Organizational Adaptation: Theory and Field Research", Organization Science, 2 (3), 239-262.

Buzzell, R.D. and Wiersema, F.D. (1981), "Successful share building strategies", Harvard Business Review, 59(1), 135-44.

Buzzell, B.T. and Gale, B.T. (1987), The PIMS principles: Linking strategy to performance, Free Press, New York, NY.

Cantarello, S., Martini, A., Nosella, A., (2012), A Multi-Level Model for Organizational Ambidexterity in the Search Phase of the Innovation Process. Creativity and Innovation Management, 21 (1), 28-48.

Chang, Y. Hughes, M., Hotho, S., (2011) "Internal and External Antecedents of SMEs" Innovation Ambidexterity Outcomes", Management Decision, 49 (10), 1658-1676.

Chang, Y., Hughes, M., (2012), "Drivers of Innovation Ambidexterity in Small- To Medium-Sized Firms", European Management Journal, 30, 1-17.

Chandrasekaran, A., Linderman, K., Schroeder, R. (2012). "Antecedents to Ambidexterity Competency in High Technology Organizations", Journal of Operations Management, 30(1), 134-151.

Christensen, C. M. (1997). "The Innovator's Dilemma: When New Technologies Cause Great Firms to Fail", Boston, MA: Harvard Business School Press.

Claver-Cortés, E., Pertusa-Ortega, E.M., Molina-Azorín, J.F., (2012). "Characteristics of Organizational Structure Relating To Hybrid Competitive Strategy: Implications for Performance". Journal of Business Research, 65, 993-1002.

Clercq, D. Thongpapanl, N., Dimov, D., (2012). “Shedding new light on the relationship between contextual ambidexterity and firm performance: An investigation of internal contingencies”. Technovation, 33(4-5), 119-132.

Corso, M., Pellegrini, L. (2007). “Continuous and discontinuous innovation: overcoming the innovator dilemma”, Creativity and Innovation Management, 16(4) 333–47.

Danneels, E., (2002), “The Dynamics of Product Innovation and Firm Competences”, Strategic Management Journal, 23, 1095-1121.

Desarbo, W. S., Benedetto, A., Song, M., Sinha, I., (2005), “Revisiting the Miles and Snow Strategic Framework: Uncovering Interrelationships between Strategic Types, Capabilities, Environmental Uncertainty, and Firm Performance”, Strategic Management Journal, 26 (1), 47-74.

Dess, G.G., Davis, P.S., (1984). “Porter’s Generic Strategies as Determinants of Strategic Group Membership and Organizational Performance”. Academy of Management Journal, 27 (3), 467- 488.

Dess, G.G., Beard, W.B., (1984). “Dimensions of Organizational Task Environments” Administrative Science Quarterly, 29, 52-73.

Dickson, P. R., Ginter, J. L. (1987). “Market segmentation, product differentiation, and marketing strategy”, Journal of Marketing, April, 1-10.

Doğan, T., (2008), “Effects of Strategy Types and Strategic Management Processes on Firm Performance”, Doctoral Thesis, Gebze Institute of Technology.

Drucker, P.F., (1985). Innovation and Entrepreneurship. Butterworth-Heinemann, Oxford

Duncan, R.B., (1972), “Characteristics of Organizational Environments and Perceived Environmental Uncertainty”, Administrative Science Quarterly, 17 (3), 313-327.

Ebben, J.J., Johnson, A. (2005), “Efficiency, Flexibility, or Both? Evidence Linking Strategy to Performance in Small Firms”, Strategic Management Journal. 26(13), 1249–1259.

Fagerberg, J., Mowery, D.C., Nelson, R.R., (2004). The Oxford Handbook of Innovation. Oxford University Press, USA.

Fang, S., Fang, S., Chou, C., Yang, S., Tsai, F., (2011). “Relationship Learning and Innovation: The Role of Relationship-Specific Memory”. Industrial Marketing Management, 40 (5), 743-753.

Fleisher, C. S., Bensaussan, B. E. (2003). Strategic and Competitive Analysis, Methods and Techniques for Analyzing Business Competition, Printice Hall, ISBN 0-13-088852-4.

Frambach, R.T., Prabhu, J., Verhallen, T.M.M., (2003), “The influence of business strategy on new product activity: The role of market orientation”, International Journal of Research in Marketing, 20, 377-397.

Garrigos-Simon, F.J. Marques, D.P., Narangajavana, Y., (2005). “Competitive Strategies and Performance in Spanish Hospitality Firms”. International Journal of Contemporary Hospitality Management, 17 (1), 22-38.

Garcia, R., Calantone, R.J., Levine, R., (2003). “The Role of Knowledge in Resource Allocation to Exploration versus Exploitation in Technologically Oriented Organizations”. Decision Sciences, 34 (2), 323-350.

Gentry, R.J., Shen, W. (2010). “The Relationship between Accounting and Market Measures Of Firm Financial Performance: How Strong Is It?”, Journal of Managerial Issues, 22(4), 514-530.

Geroski, P., 1995. Innovation and Competitive Advantage. Working Paper No. 159, OECD, Paris.

Gibson, R. (1995). “Food: At McDonald’s, New Recipes for Buns, Eggs”, The Wall Street Journal, June 13, p. B1.

Gibson, C. B., Birkinshaw, J., (2004), "The Antecedents, Consequences, and Mediating Role of Organizational Ambidexterity", Academy of Management Journal, 47, 209–26.

Govindarajan, V., Trimble, C. (2005). "Building Breakthrough Businesses Within Established Organizations", Harvard Business Review, May, 1–11.

Gupta, A.K., Govindarajan, V., (1986). "Resource Sharing Among SBUs: Strategic Antecedents and Administrative Implications", Academy of Management Journal, 29 (4), 695-714.

Gupta, A.K. (1987). "SBU Strategies, Corporate-SBU Relations, and SBU Effectiveness in Strategy Implementation", Academy of Management Journal, 30 (3), 477-500.

Gupta, A.K., Smith, K.G., Shalley, C.E., (2006), "The Interplay between Exploration and Exploitation", Academy of Management Journal, 49 (4), 693-706.

Günday, G., Ulusoy, G., Kılıç, K., Alpkan, L. (2011). "Effects of Innovation Types on Firm Performance", International J. Production Economics, 133(2), 662-676.

Hambrick, D.C., (1983a), "Some Tests of The Effectiveness And Functional Attributes of Miles And Snow"s Strategic Types", Academy of Management Journal, 26, 5-26

Hambrick, D.C., (1983b), "High Profit Strategies in Mature Capital Goods Industries: A Contingency Approach", Academy of Management Journal, 26, 687-707.

Han, J. K., Kim, N., Kim, H. B. (2001). "Entry Barriers: A Dull-, One-, or Two-Edged Sword for Incumbents? Unraveling the Paradox from A Contingency Perspective", Journal of Marketing, 65, 1–14.

Han, M. (2005). "Achieving Superior Internationalization through Strategic Ambidexterity, Journal of Enterprising Culture, 15, 43–77.

Han, M. (2007). "Achieving Superior Internationalization through Strategic Ambidexterity", Journal of Enterprising Culture 15(1), 43–77.

Hannan, M., Freeman, J., (1984). “Structural Inertia and Organizational Change”, American Sociological Review, 49, 149-164.

He, Z.L., Wong, P., (2004). “Exploration Vs. Exploitation: An Empirical Test of the Ambidexterity Hypothesis”, Organization Science, 15 (4), 481-94.

Hernandez-Espallardo, M., Molina-Castillo, F. Rodriguez-Orejuela, A. (2012) "Learning Processes, Their Impact on Innovation Performance and the Moderating Role of Radicalness", European Journal of Innovation Management, 15(1), 77 - 98

Hill, C.W.L., (1988). “Differentiation Versus Low Cost Or Differentiation And Low Cost: A Contingency Framework”. Academy of Management Review, 13 (3), 401-412.

Hill, C.W.L., Jones, G.R., (2008). Strategic Management an Integrated Approach, Houghton Mifflin Company, Eighth Edition.

Holmqvist, M. (2004). “Experiential Learning Processes Of Exploitation and Exploration Within and Between Organizations: An Empirical Study of Product Development”, Organization Science, 15, 70–81.

Homburg, C., Workman, J.P., Krohmer, H., (1999), “Marketing”s Influence within the Firm”, Journal of Marketing, 63, 1-17.

Hsu, C., Lien, Y., Chen, H. (2013). “International ambidexterity and firm performance in small emerging economies”, Journal of World Business, 48, 58–67

Im, G., Rai, A. (2008). “Knowledge Sharing Ambidexterity In Long-Term Interorganizational Relationships”, Management Science, 54, 1281–1296.

Ishikura Y. (1983). Canon, Inc.: worldwide copier strategy. Boston: Harvard Business School Case Services.

Jansen, J.P., Van Den Bosch, F.A.J., Volberda, H.W., (2005), “Exploratory Innovation, Exploitative Innovation and Performance: Effects of Organizational Antecedents and Environmental Moderators”, Management Science, 52 (11), 1661-1674.

Jansen, J.P., Van Den Bosch, F.A.J., Volberda, H. W., (2006), "Exploratory Innovation, Exploitative Innovation and Ambidexterity: The Impact of Environmental and Organizational Antecedents", Schmalenbach Business Review, 57 (October), 351-363.

Jasmand, C., Blazevic, V., Ruyter, K. (2012). "Generating Sales While Providing Service: A Study of Customer Service Representatives' Ambidextrous Behavior". Journal of Marketing, 76(1), 20-37.

Jiao, H., Alon, I., Koo, C.K., Cui, Y., (2013). "When Should Organizational Change Be Implemented? The Moderating Effect of Environmental Dynamism between Dynamic Capabilities and New Venture Performance", Journal of Engineering and Technology Management, 30, 88-205.

Jin, Z., Hewitt-Dundas, N., Thompson, N.J. (2004). "Innovativeness And Performance: Evidence from Manufacturing Sectors", Journal of Strategic Marketing, 12(4), 255–266.

Jones, G.R., Butler, J.E., (1988), "Costs, Revenue and Business-Level Strategy", Academy of Management Review, 13, 202-213.

Kabadayı, S. Eyüboglu, N., Thomas, G.P., (2007), "The Performance Implications of Designing Multiple Channels to Fit with Strategy and Environment", Journal of Marketing, 71, 195-211.

Kang, S-C., Snell, S. A. (2009). "Intellectual Capital Architectures and Ambidextrous Learning: A Framework for Human Resource Management". Journal of Management Studies, 46, 65–92.

Katila, R., Ahuja, G. (2002). "Something Old Something New: A Longitudinal Study of Search Behaviour and New Product Introduction", Academy of Management Journal, 45, 1183-1194.

Kaya, N., Alpkan, L., Aytekin, M., (2003), "Performance Impacts and Moderating Effects of Advanced Manufacturing Technologies (AMTS) On the Business Strategy-Performance Relationship: A Study of Manufacturing Firms In Gaziantep", Boğaziçi Journal Review of Social Economic and Administrative Studies, 17 (2), 59-72.

Keats, B.W., Hitt, M.A., (1988), "Causal Model of Linkages among Environmental Dimensions, Macro Organizational Characteristics, and Performance", Academy of Management Journal, 31, 570-598.

Kehoe, R. R., Collins, C. J. (2008). "Exploration and Exploitation Business Strategies and The Contingent Fit of Alternative HR Systems", Research In Personnel and human Researches Management, 27, 149-176.

Kim E, Nam D, Stimpert J.L. (2004). "Testing The Applicability Of Porter's Generic Strategies In The Digital Age: A Study Of Korean Cyber Malls", Journal of Business Strategies, 21, 19–45.

Kim, N., Atuahene-Gima, K., (2010), "Using Exploratory and Exploitative Market Learning for New Product Development", Journal of Product Innovation Management, 27, 519–536.

Koza, M.P., Lewin, A.Y., (1998). The co-evolution of strategic alliances. Organization Science 3, 255–264.

Knott, A.M., Posen, H.E., (2005). "Is Failure Good", Strategic Management Journal. 26 (7).617-641.

Kyriakopoulos, K., Moorman, C., (2004) "Trade-off in Marketing Exploitation and Exploration Strategies: The Overlooked Role of Market Orientation", International Journal of Research in Marketing, 21 (Sep), 219-40.

Leitner, K., Güldenberg, S., (2010), "Generic Strategies and Firm Performance in SMEs: A Longitudinal Study of Austrian SMEs", Small Business Economics, 35, 169-189

Levinthal, D.A., March, J.G., (1993), "The Myopia of Learning", Strategic Management Journal, 14, 95-113.

Li, C.B., Li, J., (2008). "Achieving Superior Financial Performance In China: Differentiation, Cost Leadership, Or Both?", Journal of International Marketing, 16 (3), 1-22.

Li, C., Lin, C., (2008). "The Nature of Market Orientation and Ambidexterity of Innovations". Management Decision, 46 (7), 1002-1026.

Li, D., Liu, J., (2014), "Dynamic Capabilities, Environmental Dynamism, and Competitive Advantage: Evidence from China", Journal of Business Research, 67, 2793-2799.

Lin, Z., Yang, H., Demirkan, I., (2007), "The Performance Consequences of Ambidexterity in Strategic Alliance Formations: Empirical Investigation and Computational Theorizing", Management Science, 53 (10), 1645-1658.

Liu, H., Luo, J., Huang, J.X., (2010), "Organizational Learning, NPD and Environmental Uncertainty: An Ambidexterity Perspective", Asian Business, Management, 10 (4), 529-553.

Liu, L., Leitner, D., (2012), "Simultaneous Pursuit of Innovation and Efficiency in Complex Engineering Projects—A Study of the Antecedents and Impacts of Ambidexterity in Project Teams", Project Management Journal, 43 (6), 97-110

Logman, M. (2009). "The dynamics towards multiple strategic options: a conceptual approach", The Open Business Journal, 2(1), 108-111.

Lööf, H., Heshmati, A., (2007). "On the relationship between innovation and performance: A sensitivity Analysis", Economics of Innovation and New Technology, 15 (4-5), 317-344.

Lubatkin, M.H., Şimşek, Z., Ling, Y., Veiga, J.F., (2006). "Ambidexterity and Performance in Small- To Medium-Sized Firms: the Pivotal Role of TMT Behavioural Integration". Journal of Management, 32, 1-27.

March, J.G., (1991), “Exploration and Exploitation in Organizational Learning”, Organization Science, 2 (1), 71-87.

Masini, A., Zollo, M., Van Wassenhove, L. (2004). “Understanding Exploration And Exploitation In Changing Operating Routines: The Influence Of Industry And Organizational Traits” In London Business School Working Paper, OTM 04-022.

McAdam, R., Keogh, K., (2004). “Transitioning towards creativity and innovation measurement in SMEs”. Creativity and Innovation Management 13 (2), 126–141.

McGrath, R. G. (2001). “Exploratory Learning, Adaptive Capacity and the Role of Managerial Oversight”, Academy of Management Journal, 44(1), 118-131.

Miles, R.E., Snow, C.C., 1978. Organizational Strategy, Structure, and Process, New York: Mcgraw-Hill.

Miller, D., (1986). “Configurations of Strategy And Structure: Towards A Synthesis”, Strategic Management Journal, 7, 233-249.

Miller, D., (1991). “Stale In The Saddle: CEO Tenure and the Match between Organization and Environment”, Management Science, 37(1), 34–52.

Miller, A., Dess, G., (1993), “Assessing Porter”s (1980) Model In Terms of Its Generalizability, Accuracy and Simplicity”, Journal of Management Studies, 30 (4), 553-585.

Miller, A., Dess, G., (1996). Strategic Management, Second Edition, New York, 1996.

Mintzberg, H. (1988). Generic strategies: Toward a comprehensive framework. In R. Lamb, & P. Shrivastava (Eds.), Advances in strategic management, (Vol. 5). Greenwich, CT: JAI Press.

Mengüç, B., Auh, S., (2008), “The Asymmetric Moderating Role of Market Orientation on the Ambidexterity–Firm Performance Relationship for Prospectors and Defenders”, Industrial Marketing Management, 37, 455-470.

Mittal, V., Anderson, W.E., Sayrak, A., Tadikamalla, P., (2005), "Dual Emphasis and the Long-Term Financial Impact of Customer Satisfaction", Marketing Science, 24 (4), 544-55

Morgan, R. E., Berthon, P. (2008). "Market Orientation, Generative Learning, Innovation Strategy and Business Performance Inter-Relationships in Bioscience Firms", Journal of Management Studies, 45(8) December, 1329-1353.

Murray, A.I., (1988). "A Contingency View of Porter's Generic Strategies". Academy of Management Review, 13 (3), 390–400.

Nandakumar, M.K., Ghobadian, A. and O'Regan, N., 2010. Business-Level Strategy and Performance□The Moderating Effects of Environment and Structure. Management Decision, 48(6), pp.907-939.

O'Reilly, C.A., Tushman, M.L., (2008), "Ambidexterity as a Dynamic Capability: Resolving the Innovator's Dilemma", Research in Organizational Behaviour, 28, 185-206

Özsomer, A., Gençtürk. E. (2003). "A Resource-Based Model of Market Learning in The Subsidiary: The Capabilities of Exploration and Exploitation", Journal of International Marketing, 11 (3), 1-29.

Pandey, S., Sharma, R., (2009). "Organizational Factors for Exploration and Exploitation". Journal of Technology Management &Innovation, 4 (1), 48-58.

Parnell, J.A., (2000). "Reframing the Combination Strategy Debate: Defining Forms of Combination". Journal of Applied Management Studies, 9 (1), 33-54.

Parnell, J.A., (2011), "Strategic Capabilities, Competitive Strategy, and Performance among Retailers in Argentina, Peru and the United States", Management Decision, 49 (1), 130-155.

Peng M.W., (2008). "Global strategy", South-Western, p. 2e.

Pérez-Luño, A., Wiklund, J., Cabrera, R.V., (2011). "The Dual Nature of Innovative Activity: How Entrepreneurial Orientation Influences Innovation Generation And Adoption", Journal of Business Venturing, 26 (5), 555-571.

Pertusa-Ortega, E.M., Molina-Azorin, J.F., Claver-Corte´s, F., (2009). "Competitive Strategies and Firm Performance: A Comparative Analysis of Pure, Hybrid and Stuck-in-the-middle" Strategies in Spanish Firms", British Journal of Management, 20, 508-523.

Philips, L.W. Chang, D.R., Buzzell, R.D., (1983), "Product Quality, Cost Position and Business Performance: A Test of Some Key Hypotheses", Journal of Marketing, Spring, 26-43.

Porter, M.E., (1980), "Competitive Strategy: Techniques For Analyzing Industries And Competitors", New York: The Free Press.

Porter, M.E., (1985), "Competitive Advantage, Creating A Sustaining Superior Performance", New York, First Free Press Edition.

Porter, M.E. (1991). "Towards a Dynamic Theory of Strategy," Strategic Management Journal, 12, Winter, 95-117.

Porter, M.E., (1996), "What Is Strategy", Harvard Business Review, November-December, 2-23.

Porter, M.E., Lee, T.H., (2013), The Strategy That Will Fix Health Care, Harvard Business Review, October, 50-71.

Rea, P.J., Kerzner, H. (1997). "Strategic Planning:A Practical Guide", Wiley, p.52-3.

Raisch, S., Birkinshaw, J., (2008). "Organizational Ambidexterity: Antecedents, Outcomes, and Moderators". Journal of Management, 34, 375-409.

Rivkin, J. W, Siggelkow, N. (2003). "Balancing Search And Stability: Interdependencies Among Elements Of Organizational Design", Management Science, 49, 290–311.

Rothaermel, F. T., Deeds, D. L. (2004). "Exploration And Exploitation Alliances In Biotechnology: A System of New Product Development", Strategic Management Journal, 25, 201–221.

Rothaermel, F. T., Alexandre, M. T. (2010). “Ambidexterity in Technology Sourcing: The Moderating Role of Absoptive Capacity”, Organization Science, 20(4), 759-780.

Russo, A., Vurro, C. (2010). “Cross-Boundary Ambidexterity: Balancing Exploration and Exploitation in the Fuel Cell Industry”□, European Management Review 7, 30–45.

Santos-Vijande, M.L., López-Sánchez, J.A., Trespalacios, J.A., (2012), “How Organizational Learning Affects a Firm’s Flexibility, Competitive Strategy, And Performance”, Journal of Business Research, 65, 1079-1089.

Sin, L.Y.M., Tse, A.C.B., Yim, F.H.K. (2005). “CRM: Conceptualization and Scale Development”. European Journal of Marketing, 39(11/12), 1264-1290.

Siren, C.A., Kohtamaki, M., Kuckertz, A. (2012). “Exploration And Exploitation Strategies, Profit Performance, And The Mediating Role Of Strategic Learning: Escaping the Exploitation Trap”, Strategic Entrepreneurship Journal, 6(1), 18-41.

Smith, W., Tushman, M.L. (2005). “Managing Strategic Contradictions: A Top Management Model For Managing Innovation Streams”, Organization Science, 16, 522–536.

Spanos, Y.E., Zaralis, G., Lioukas, S., (2004), “Strategy and Industry Effects on Profitability: Evidence from Greece”, Strategic Management Journal, 25 (2), 139-165.

Speed, R. J. (1989). Mr. Porter! A Reappraisal of Competitive Strategy. Marketing Intelligence and Planning, 7 (5-6), 8-11.

Strickland, T. Strategic Management Concepts and Cases, 11. Edition, McGrawHill International Edition, 1999.

Şimşek, Z., Heavey, C., Veiga, J. F., Souder, D. (2009). “A Typology for Ambidexterity’s Conceptualizations, Antecedents and Outcomes”, Journal of Management Studies, 46(5), 864-894.

Teece, D.J., Pisano, G., Shuen, A., (1997), "Dynamic Capabilities and Strategic Management", Strategic Management Journal, 18 (7), 509-533.

Thompson, J. D. (1967). Organizations in Action: Social Sciences Bases Of Administrative Theory, New York: McGraw-Hill.

Thompson, A.A., Strickland, A.J., (1995), "Strategic Management -Concepts and Cases", Eight Edition, Richard D. Irwin Inc.

Tsai, K., Yang, S., (2013), "Firm Innovativeness and Business Performance: The Joint Moderating Effects of Market Turbulence and Competition", Industrial Marketing Management, 42, 1279-1294.

Tushman, M.L., O'Reilly, C.A., (1996), "Ambidextrous Organizations: Managing Evolutionary and Revolutionary Change", California Management Review, 38, 8-30.

Tushman, M.L., O'Reilly, C.A., (1997), Winning Through Innovation: A Practical Guide To Leading Organizational Change And Renewa, Boston: Harvard Business School Press.

Uotila, J., Maula, M., Keil, T., Zahra, S. A. (2009). "Exploration, Exploitation, And Financial Performance: Analysis of S&P 500 Corporations", Strategic Management Journal, 30: 221–231

Ward, P.T. Bickford, D.J., Leong, G.K., (1996), "Configurations of Manufacturing Strategy, Business Strategy, Environment and Structure", Journal of Management, 22 (4), 597-626.

White, R.E., (1986). "Generic Business Strategies, Organizational Context and Performance: An Empirical Investigation". Strategic Management Journal, 7, 217-231.

Wright P, Kroll M, Tu H, Helms M. (1991). "Generic strategies and business performance: an empirical study of the screw machine products industry", British Journal of Management, 2:1–9.

Yalçınkaya, G., Calantone, R.J., Griffith, D.A., (2007). "An Examination of Exploration and Exploitation Capabilities: Implications for Product Innovation and Market Performance". Journal of International Marketing, 15 (4), 63-93.

Yamakawa, Y., Yang, H., Lin, J.Z. (2010). "Exploration Versus Exploitation In Alliance Portfolio: Performance Implications of Organizational, Strategic, and Environmental Fit", Research Policy, 40(2), 287-296.

Yang, T.T., Li, C., (2011). "Competence Exploration and Exploitation in New Product Development - The Moderating Effects of Environmental Dynamism and Competitiveness". Management Decision, 49 (9), 1444-1470.

Yasai-Ardekani M., Nystrom, P.C., (1996). "Designs For Environmental Scanning Systems: Tests of A Contingency Theory", Management Science, 42, 187-204.

White, R. E. (1986). "Generic Business Strategies, Organizational Context and Performance: An Empirical Investigation", Strategic Management Journal, 7, 217-231.

Womac, J. P., Jones, D. I., Ross, D. (1990), "The Machine that Changed the World", New York, Rawson.

Zhang, J., Duan, Y., (2010), "The Impact of Different Types of Market Orientation on Product Innovation Performance Evidence from Chinese Manufacturers", Management Decision, 48 (6), 849-867.

CURRICULUM VITAE

İnanç Tahralı was born at 1978 in Konya. In 2000, she has graduated from Computer Engineering Department of Selçuk University (BSc). In 2004 she has completed her Master of Science at Computer Engineering Department of Gebze Technical University. She has started her doctorate in Business and Management Department of Gebze Technical University in 2009. She has obtained Philosophy of Doctorate degree at 2014. She works at Altınay Aerospace and Advanced Technologies Inc. as Project Manager.

APPENDICES

APPENDIX A: Questionnaire (English Version)

Dear Manager,

This questionnaire is related to the doctoral thesis named "Relationships among Generic Strategies, Innovation Efforts, Ambidexterity and Firm Performance". By answering the questions in this questionnaire, you will contribute to a study that is performed with only scientific purposes.

Information about you and your firm will be kept confidential. The results obtained will be shared with participant firms via e-mail.

Thanks you for your interest.

İnanç Tahralı

Gebze Technical University

Doctorate Student

How much priority your company gives to the targets here below ? **1- Any or Very Little 2-Little 3-Average 4-Much 5-Very Much**					
Differentiation					
Increase the value of our organization through customers' eyes.	1	2	3	4	5
Differentiating from our competitors with quality of our products or services.	1	2	3	4	5
Providing our customers with more beneficial products and services than our competitors'.	1	2	3	4	5
Creating a strong brand image which cannot be easily imitated by our competitors.	1	2	3	4	5
Differentiating our product and services from our competitors'.	1	2	3	4	5
Improving the image of our products and services on the eyes of our customers.	1	2	3	4	5

Low Cost					
Reducing costs of all operations in our organization.	1	2	3	4	5
Reducing our unit costs in comparison to our competitors.	1	2	3	4	5
Increasing efficiency in all our processes.	1	2	3	4	5
Increasing capacity utilization rate in all our processes.	1	2	3	4	5
Reducing our unit costs through achieving high production and sales volume.	1	2	3	4	5
Gaining ability to reduce the unit sales prices more than the competitors do.	1	2	3	4	5
Controlling and keeping down our costs for all internal processes such as production, storage, etc.	1	2	3	4	5
Controlling and keeping down our costs for all external processes such as supplying, distribution, etc.	1	2	3	4	5
Reducing our input costs through high volume purchase (central, composite, large amount, etc.).	1	2	3	4	5

How do you assess the condition of the industry or market you operate in considering the following features ? **1- Strongly Disagree 2-Disagree 3-Neither Agree nor Disagree 4-Agree 5-Strongly Agree**					
Market Dynamism					
Customers' expectations and demands change rapidly.	1	2	3	4	5
From customer's perspective, products/services quickly become old-fashioned.	1	2	3	4	5
Strategies of our competitors change rapidly.	1	2	3	4	5
Used technologies change rapidly.	1	2	3	4	5
The speed of product/service renewal in the market is very high.	1	2	3	4	5
Applied sales and marketing techniques change rapidly.	1	2	3	4	5
Firm and brand orientated customer loyalty is not very high.	1	2	3	4	5
Customers always expect new products/services.	1	2	3	4	5
Price Competition					
We are in a cutthroat price competition with our competitors.	1	2	3	4	5
There is an intense price competition among firms in the sector.	1	2	3	4	5
Unit profit margin in the sector is not very high.	1	2	3	4	5
Customers are generally price sensitive.	1	2	3	4	5
Customers look for suitable price in their purchase decisions.	1	2	3	4	5
Intensity of competition in this market is generally very high.	1	2	3	4	5

How much effort is made and how mcuh resource is allocated in your company for the following activities ? **1- Any or Very Little 2-Little 3-Average 4-Much 5-Very Much**					
Exploratory Innovation Efforts					
Develop and put new products and services on the market.	1	2	3	4	5
Develop and implement new processes.	1	2	3	4	5
Develop and implement new marketing operations.	1	2	3	4	5
Develop and implement new competing methods.	1	2	3	4	5
Develop and implement new technological capabilities.	1	2	3	4	5
Create new and creative solutions to customers' problems.	1	2	3	4	5
Create new expectations and needs for customers.	1	2	3	4	5
Exploitative Innovation Efforts					
Improve current products and services continuously.	1	2	3	4	5
Improve current processes continuously.	1	2	3	4	5
Improve current marketing activities continuously.	1	2	3	4	5
Sustain current competing methods by enhancing.	1	2	3	4	5
Sustain current technological capabilities by enhancing.	1	2	3	4	5
Force to get highest benefits from current investments in products, services, processes.	1	2	3	4	5

Please assess how much your company is successful in comparison with your competitors in last three years (2011-2013) by considering the following criterian. **1- Very Unsuccessful 2- Unsuccessful 3-Neither Successful Nor Unsuccessful 4- Successful 5- Very Successful**					
Financial Performance					
Increases in ROA (Return on Assets).	1	2	3	4	5
Increases in ROS (Return on Sales).	1	2	3	4	5
Increases in ROI (Return on Investments).	1	2	3	4	5
Increases in total profits.	1	2	3	4	5
Market Performance					
Increases in total sales.	1	2	3	4	5
Increases in market share.	1	2	3	4	5
Increases in competitiveness of the firm.	1	2	3	4	5
Increases in general market performance.	1	2	3	4	5
Profile of Your Company Name of Company: Operating Period: Sector: Number of Employees:					
The Person Who Participate the Questionnaire Name - Surname: Position: E-mail address: How many Years Has He/She Been Working in this Company:					

APPENDIX B: Questionnaire (Turkish Version)

Sayın Yönetici,

Bu anket formu, "Jenerik Stratejiler, Yenilikçilik Çabaları, Çift Yeteneklilik ve Firma Performansı arasındaki İlişkiler" konulu doktora araştırma tezi ile ilgilidir. Anketi oluşturan soruları cevaplayarak, tamamen bilimsel amaçlarla yürütülmekte olan çalışmaya katkıda bulunacaksınız.

Şahsınız ve firmanız ile ilgili özel bilgiler kesinlikle gizli tutulacaktır. Elde edilen bulgular arzulayan katılımcı firmalara e-mail ile bildirilecektir.

Gösterdiğiniz ilgi için teşekkür ederim.

İnanç Tahralı

Gebze Teknik Üniversitesi

Doktora Öğrencisi

Firmanız aşağıdaki hedeflere ne ölçüde öncelik verir ? **1- Hiç veya çok az 2-Az 3-Orta 4-Çok 5-Pek çok**					
Farklılaştırma					
Rakiplerimize kıyasla firmamızın müşteri gözündeki değerini yükseltmek.	1	2	3	4	5
Ürün ve hizmet kalitemiz sayesinde rakiplerimizden farklılaşmak.	1	2	3	4	5
Ürün ve hizmetlerimizle rakip ürün ve hizmetlere kıyasla müşteriye daha yüksek fayda sağlamak.	1	2	3	4	5
Rakiplerimizin kolay kolay taklit edemeyeceği güçlü bir marka imajı oluşturmak.	1	2	3	4	5
Ürün ve hizmetlerimizi rakiplerimizden farklılaştırmak.	1	2	3	4	5
Ürün ve hizmetlerimizin müşteri gözündeki imajını iyileştirmek.	1	2	3	4	5
Düşük Maliyet					
Firmamızdaki tüm faaliyetlerin maliyetlerini azaltmak.	1	2	3	4	5
Rakiplerimize kıyasla birim maliyetlerimizi azaltmak.	1	2	3	4	5
Tüm süreçlerimizdeki verimliliği artırmak.	1	2	3	4	5
Tüm süreçlerimizdeki kapasite kullanım oranlarını artırmak.	1	2	3	4	5

Büyük üretim ve satış kapasitesine ulaşarak birim maliyetlerimizi azaltmak.	1	2	3	4	5
Rakiplerimize kıyasla birim satış fiyatlarında daha fazla indirim yapabilme gücüne kavuşmak.	1	2	3	4	5
Tüm iç süreçlerde (üretim, depolama, vb) maliyetlerimizi kontrol ve denetim altına alabilmek.	1	2	3	4	5
Tüm dış süreçlerde (tedarik, dağıtım, vb) maliyetlerimizi kontrol ve denetim altına alabilmek.	1	2	3	4	5
Toptan (merkezi, birleşik, büyük miktarlarda, vb) satın alma yoluyla girdi maliyetlerimizi azaltmak.	1	2	3	4	5

Faaliyette bulunduğunuz endüstri ve pazarın durumunu aşağıdaki özellikler açısından nasıl değerlendiriyorsunuz ? **1- Hiç Katılmıyorum 2-Katılmıyorum 3-Ne Katılıyorum Ne Katılmıyorum 4-Katılıyorum 5-Tamamen Katılıyorum**					
Pazar Dinamizmi					
Pazardaki müşterinin beklenti ve talepleri çok hızlı değişmektedir.	1	2	3	4	5
Müşteri gözünde mevcut ürün ve hizmetlerin modası çok çabuk değişmektedir.	1	2	3	4	5
Rakiplerimizin stratejileri çok çabuk değişmektedir.	1	2	3	4	5
Kullanılan teknolojiler çok çabuk değişmektedir.	1	2	3	4	5
Ürün ve hizmetlerdeki yenilenme hızı çok yüksektir .	1	2	3	4	5
Kullanılan satış ve pazarlama teknikleri çok hızlı değişmektedir.	1	2	3	4	5
Pazardaki firma ve markalara yönelik müşteri sadakati çok yüksek değildir.	1	2	3	4	5
Müşteri sürekli olarak yeni ürün ve hizmet beklentisi içindedir.	1	2	3	4	5
Fiyat Rekabeti					
Rakiplerimizle kıran kırana bir fiyat rekabeti içindeyiz.	1	2	3	4	5
Sektördeki rakip firmalar arasında çok şiddetli bir fiyat rekabeti yaşanmaktadır.	1	2	3	4	5
Sektördeki birim kâr marjları çok yüksek değildir.	1	2	3	4	5
Müşteriler genelde fiyata çok duyarlıdır.	1	2	3	4	5
Müşteriler satın alma kararı verirken daha ziyade fiyatın uygunluğuna önem verir.	1	2	3	4	5
Genel olarak bu pazarda rekabetin şiddeti yüksektir.	1	2	3	4	5

Firmanızda aşağıdaki faaliyetlere ne ölçüde kaynak ayrılır ve çaba sarf edilir? **1- Hiç veya çok az 2-Az 3-Orta 4-Çok 5-Pek çok**					
Keşif Çabaları					
Yeni ürün ve hizmetlerin geliştirilip pazara sunulması.	1	2	3	4	5
Yeni süreçlerin geliştirilip uygulamaya konulması.	1	2	3	4	5
Yeni pazarlama faaliyetlerinin geliştirilip uygulamaya konulması.	1	2	3	4	5
Yeni rekabet etme şekillerinin geliştirilip uygulamaya konulması	1	2	3	4	5
Yeni teknolojik yeteneklerin geliştirilip uygulamaya konulması.	1	2	3	4	5
Müşteri problemlerine yeni ve yaratıcı çözümler sunulması.	1	2	3	4	5
Müşterilerde yeni beklenti ve ihtiyaçlar oluşturulması.	1	2	3	4	5
Fayda Artırıcı Çabalar					
Mevcut ürün ve hizmetlerin sürekli iyileştirilmesi.	1	2	3	4	5
Mevcut süreçlerin sürekli iyileştirilmesi.	1	2	3	4	5
Mevcut pazarlama faaliyetlerinin sürekli iyileştirilmesi.	1	2	3	4	5
Mevcut rekabet etme şeklinin güçlendirilerek sürdürülmesi.	1	2	3	4	5
Mevcut teknolojik yeteneklerin güçlendirilerek sürdürülmesi.	1	2	3	4	5
Ürün, hizmet ve süreçlerde mevcut yatırımlardan en yüksek faydanın teminine çalışılması.	1	2	3	4	5

Son üç yılda (2011-2013) firmanızın aşağıdaki kriterler açısından rakiplere kıyasla ne ölçüde başarılı olduğunu değerlendiriniz. **1- Çok Başarısız 2- Başarısız 3- Ne Başarılı Ne Başarısız 4- Başarılı 5- Çok Başarılı**					
Finansal Performans					
Toplam aktif kârlılığında (Kâr / Toplam Varlıklar) artış	1	2	3	4	5
Toplam ciro kârlılığında (Kâr / Toplam Satışlar) artış	1	2	3	4	5
Toplam yatırım kârlılığında (Kâr / Toplam Yatırımlar) artış	1	2	3	4	5
Kârlarda genel bir artış	1	2	3	4	5
Pazar Performansı					
Toplam satışlarda artış	1	2	3	4	5
Pazar payında artış	1	2	3	4	5
Firmanın pazardaki rekabet gücündeki artış	1	2	3	4	5
Firmanın pazar performansında genel bir artış	1	2	3	4	5
İşletmenizin Profili İşletmenin Adı: Faaliyet Süresi: Faaliyet Alanı: Çalışan Sayısı:					
Anketi Cevaplayan Kişinin Adı Soyadı: Görevi: E-mail adresi: İşletmede Kaç Yıldır Çalıştığı:					