

**T.C.
GEBZE YÜKSEK TEKNOLOJİ ENSTİTÜSÜ
SOSYAL BİLİMLER ENSTİTÜSÜ**

**EFFECTS OF ENVIRONMENTAL SCANNING
AND PLANNING FLEXIBILITY OVER FIRM
PERFORMANCE IN SMES**

**ASIM ALTUNBAŞ
YÜKSEK LİSANS TEZİ
İŞLETME ANABİLİM DALI**

**TEZ DANIŞMANI
PROF. DR. LÜTFİHAK ALPKAN**

**GEBZE
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SOSYAL BİLİMLER ENSTİTÜSÜ

YÜKEK LİSANS TEZİ

JÜRİ ONAY SAYFASI

G.Y.T.E. Sosyal Bilimler Enstitüsü Yönetim Kurulu'nun tarih ve sayılı kararıyla oluşturulan jüri tarafından/...../..... tarihinde tez savunma sınavı yapılan Asım ALTUNBAŞ'ın tez çalışması İşletme Anabilim Dalında Yüksek Lisans tezi olarak kabul edilmiştir.

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İMZA/MÜHÜR

ÖZET

TEZ BAŞLIĞI: KOBİ'lerde Çevresel Tarama ve Planlama Esnekliğinin Firma Performansı Üzerine Etkileri

YAZAR ADI: Asım ALTUNBAŞ

Bu çalışmanın amacı; küçük ve orta büyüklükteki işletmelerde (KOBİ) (1) çevresel tarama ve firma performansı (2) planlama esnekliği ve firma performansı arasındaki ilintileri ortaya koymaktır. Araştırmada pazar dinamizminin hem çevresel tarama hem de planlama esnekliği üzerindeki moderatör etkisi de irdelenmiştir. Örneklem olarak Kocaeli'de faaliyet gösteren 1200 imalatçı firmadan 600'ü rastgele seçilmiştir. Seçilen firmalardan araştırmaya katılmayı kabul eden 400 tanesinde yöneticilerle yüz yüze görüşerek anket uygulaması yapılmıştır. Model, 4 hipotezlendirilmiş ilişki üzerine kurulmuştur.

Araştırmanın istatistiksel analizi; çevresel tarama ve planlama esnekliğinin firma performansı üzerine etkileri hakkında önemli bulgular içermektedir. Kullanılan ölçeklerin güvenilirlik analizleri oldukça iyi sonuçlar vermiştir. Hipotezleri sınamak için yapılan regresyon analizleri sonuçları literatürle örtüşmektedir. İstatistiksel veriler değerlendirilmiş ve sonuç çıkarılmıştır. Bu alanda yapılacak gelecekteki çalışmalar için çıkarımlar yapılmıştır.

ANAHTAR KELİMELEER: KOBİler, çevresel tarama, firma performansı, planlama esnekliği, pazar dinamizmi, stratejik planlama.

ABSTRACT

THESIS TITLE: Effects of Environmental Scanning and Planning Flexibility over Firm Performance in SMEs

AUTHOR: Asım ALTUNBAŞ

The purpose of this paper is to produce evidence about the correlations between (1) environmental scanning and firm performance and (2) planning flexibility and firm performance while examining the moderating effect of market dynamism on both environmental scanning and planning flexibility in small and medium sized enterprises (hereafter SMEs). Four hypothesized relationships are assessed with a sample size of 600 randomly chosen firms among 1200 manufacturing organizations carrying on business in Kocaeli by utilizing face-to-face questionnaire survey technique. 400 executives agreed to participate.

The outcomes of the statistical analyses of this research have exposed considerable conclusions on the effects of environmental scanning and planning flexibility over firm performance. The reliability analyses of the scales used in the research have also suggested significant results. Research findings through the completion of regression analyses which have been conducted in order to test the hypotheses; are found to be concurring with literature. In addition to the statistical results, the findings have been conceptually discussed and concluded. Finally, implications have been presented for future studies.

KEYWORDS: SMEs, environmental scanning, firm performance, planning flexibility, market dynamism, strategic planning.

THANKS

I would like to thank;

Mom, dad, brothers and grandfather for their continuous support;

My advisor Prof. Lütfihak Alphan for his extensive and tireless help;

Assis. Prof. Hakan Kitapçı for his friendly guidance;

Dear friends, Fatih and Vural, for their peer motivation;

My distinguished director, Aziz Ulvi Çalışkan, for his trust;

And my only one, for always being next to me.

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1 INTRODUCTION

Adaptability and responsiveness to the dynamism and turbulence present in the rapidly changing marketplace are among the principal competitive superiorities of the firms competing for excellent positions. Managers and scholars look for better mechanisms as well as models that may contribute to this competitive position of the organizations by indoctrinating adaptive characteristics to their structures, techniques, strategies, plans, and implementations. Information collection to learn and flexibility to adapt are two of considerable core competencies that are proposed as their sources of sustainable competitive advantage by the recent literature on strategic management. Previous studies (e.g. Baker and Sinkula, (1999); Naman and Slevin, (1993); Barringer and Bluedorn, (1999); Slater and Narver, (1998)) indicate that the organizational performance is directly related to the combination of all relevant factors such as culture, climate, procedures etc. in order to adapt to rapidly changing market dynamics. The very nature of the change itself is thus based on the survival of not the strongest nor the largest but the most adaptive. In other words, change favors the more knowledgeable and flexible.

According to Jansen van Vuuren (2002), careful monitoring of a firm's internal and external environments for detecting early signs of opportunities and threats may influence its current and future plans. In comparison, "surveillance" is confined to a specific objective or a narrow sector. It helps to understand the organization's internal needs, assets, and the external environment in which they are operating. Today the business environment is at the phase which it has become most complicated to survive, most difficult to understand or analyze and most intricate due to internal and external influencers. In an environment of complexity in which gathering, analyzing, and disseminating information for strategic purposes has emerged as a vital necessity for survival, the comprehensive scanning became one of the most important elements of organizational success. Authors, researchers such as Duncan (1972), Mintzberg (1973), Hambrick (1979, 1981, 1982), Bradley (1995) and many more have emphasized the importance of environmental scanning on the business performance of the organizations. Notable researches and studies therefore

proved that the level of environmental scanning in organizations is positively related to their organizational performance.

Recent studies, however, investigating this well established scanning-performance relationship specifically in SMEs are surprisingly rare. Since SMEs are established and survive thanks to their ability to learn from and adapt to the external environment, scanning is essential for their sustainable competitive advantage. There are various implications of environmental scanning. Therefore in this study, the level of performance of the SMEs that is directly contingent to their environmental scanning efforts will be tested.

Our second emphasis in this study is on the claim that the level of planning flexibility in SMEs may have also a direct positive effect on the overall performance. To handle the burdens of a highly dynamic market, the organizations must be responsive and adaptive to the ever changing market needs which puts forth the question of flexibility for consideration. The logic behind this is that the level of flexibility enabling the organizations modify themselves will be a defining factor in the organizational success, as the complexity of the environment requires responsive change in the organizational structure and/or strategy.

Together with the direct effects of environmental scanning and planning flexibility on overall performance, the dynamism of the market can intervene in these relations, since the necessity of learning from and adaptation to the external environment and their performance impacts can be augmented in a turbulent market. According to Dess and Beard (1984) the market dynamism describes the rate and the unpredictability of change in a firm's external environment. Dynamism can also be described as the frequent changes in the industry, including changes of market elements such as customer demand, technology, competitor structure, etc. (Achrol and Stern, 1988; Jap, 1999), and is particularly important because of its influence on relationships between a variety of firm-level constructs and firm performance. Therefore it is inevitable to fully understand the factors that compose the market dynamics and their effects on organizational dynamics. Accordingly, in this study,

we investigate moderating role of market dynamism on the performance impacts of environmental scanning and planning flexibility in SMEs.

The second section preceding the introduction section is on the background of the literature covering our research hypotheses. The third section of this paper is about the research methodology including data collection, measurement of constructs, measure validation and analysis. The final section provides the readers a summary of the findings and managerial and further research implications.

2 BACKGROUND AND RESEARCH HYPOTHESES

2.1 Environmental Scanning and Firm Performance

The notion of environmental scanning emerged in 60s, when company executives began to speak about it openly and it became part of strategic planning (Russel and Prince, 1992). But it was only in the 1980s that its obvious impact on companies started to be proven, especially to the ones that are newly established and recently developing which needed more effective use of external information. Environmental scanning had quite large and interesting literature at that time, which is where the following literature review starts. This presentation is an overview of the most important empirical works. The emphasis is more upon what was examined and what was found. With this approach, the intention is to look for the great weigh of importance on the companies' performance, especially the small and medium sized ones.

The environment was defined by Duncan (1972) as the relevant physical and social factors outside the boundary of an organization that are taken into consideration during organizational decision making. The environment, perhaps more than any other factor, affects organizational structure, internal processes and managerial decision making (Duncan, 1972; Pfeffer and Salancik, 1978; Galbraith, 1973). By another saying, organizational actions are based on information collected from the external environment (Daft and Weick, 1984). As the most important interface between the external environment and the organization, environmental scanning often provides a crucial trigger for the organizational adaptation process (Daft and Weick, 1984; Pfeffer and Salancik, 1978).

Firms became to have to deal with far more challenging problems and complicated environments in industry with the dawn 20th century. The scope and complexity of the environment in which a firm runs has grown remarkably as the pace of change in that very environment sped up. (Ansoff, 1977). Besides the

increasing complexity and pace of change, monitoring of the variability of these two trends emerged as a necessity for the management. It became a managerial method to be used for strategic purposes. The theory of open systems introduced the perception of environment and the environmental scanning. Moreover, the researches showed that organizations that scan their environment effectively can have an information advantage over those that do not and become better aligned with the external conditions (Daft et al., 1988). As such, several empirical studies indicate a linkage between managerial perceptions of environmental characteristics and the saliency of the external events expected to affect the firm performance (Bourgeois, 1985; Dess and Keats, 1987).

Environmental scanning is defined as the managerial activity of learning about events and trends in the organization's environment (Hambrick, 1981) as well as the means through which top managers perceive external events and trends (Hambrick, 1982; Culnan, 1983). In addition, environmental scanning, a method of "uncertainty absorption", is an important process of strategic management in as much being the first link in the chain of perceptions and actions that permit an organization to adapt its environment.

There are numerous sources that investigate environmental scanning. In the past decade, two basic approaches have been taken by environmental scanning researchers. One examines environmental scanning as a formalized procedure (Porter, 1980; Jain, 1984; Lenz and Engledow, 1986; Fay and Beatty, 1987), while the other treats environmental scanning as a responsibility of individual executives in their efforts to remain current and competitive in the industry (Aguilar, 1967; Kefalas and Schoderbek, 1973; Hambrick, 1979; Fahr, Hoffman and Hegarty, 1984; West and Olsen, 1988). Choo (1999), Saxby et al. (2002), Albright (2004), and Nastanski (2004) present relevant works in the area of environmental scanning. Resources, process, formality, frequency, technology base and integration into the organization's decision making process are elements of environmental scanning which collectively present a framework that should establish a logical relationship among key factors: environmental scanning, business development function, and improved business

performance. These factors exist and are considered as part of a complex and dynamic environment.

According to Hambrick (1982), environmental scanning is crucial for the survival of the firms and for the profit maximization because of three factors. The first factor is; environmental scanning can be conceived of as a key step in the process of organizational adaptation. Executives can only interpret (Janis and Mann, 1977), disseminate (Rogers and Agarwala Rogers, 1976), analyze (Hofer and Schendel, 1978) and politicize (Allison, 1971) information that enters the organization. The better understanding of the environment that the firms operate will help to improve the management's predictions and explanations of organizational adaptation by recognizing the potential for organizations to differ in what and how much they scan. The second factor is; executives need improved understanding of the extent to which competitors in an industry have unequal mastery of environmental trends. If competitors have unequal information, then they differ in their abilities to formulate cogent responses to the environment. If they have generally equal information, then any difference in their responses or accompanying performances are attributable to differences in their abilities (or their own perceptions of their abilities) to implement a response, that is, to change or modify their strategy.

The third factor is empirical evidence (e.g., Mintzberg, 1973) and executives' own laments suggest that decision makers have access to far more environmental information than they can possibly perceive. They must scan selectively (Hambrick 1982).

Moreover, Miller's study (1988) on the relationship between strategy and the scanning activities by investigating the relationship between an information-processing dimension and Porter's (1980) generic business strategies aimed to understand the correlation between the environmental scanning and firm's performance. Miller investigated the amount of environmental scanning activities rather than the type of scanning activities. On their study, Hrebiniak and Joyce (1985) argued that (a) organizations employing either a defender or low cost would use environmental scanning activities that seek immediate solutions for lowering

costs or improving profits, and (b) organizations using either a prospector or differentiation strategy would employ environmental scanning activities in a non-directed manner, looking for opportunities rather than searching for immediate solutions to cost or efficiency problems.

Firms are collaborative organisms comprising personnel under a formal system of coordination and also adaptive structures responding to environmental exposure (Selznick, 1948). To survive, they must be the aware of the competition, aware of the possibility of injurious actions of others and able to prevent those antecedently. This perception bases on the concept of homeostasis where the firm strives to remain stable and viable in an unstable environment (Thompson, 1967). Conversely, most managerial plans suggest future uncertainty and unplanned consequences due to environmental exposure on which they have almost no influence. Dill (1958) explains the firm's environmental mission as the stimuli to which an organization is exposed. To him, inputs of information from external sources are carried via stimuli mentioned above. Customers, suppliers, competitors and regulatory groups are the four shared domains he comes up with as a result, even though the environmental scheme may vary from sector to sector.

Firms occur at three levels according to Parsons (1960): technical, managerial and institutional. Utmost difficulties on the technical level refer to the effective functioning of the transformation process. The managerial level involves in moderating between the technical level and the environmental mission. Consequently, the management settles the markets to compete, chooses the suppliers/providers to work with, plans the inventorial levels and so on. The institutional level refers to the legitimacy of the organization to search for resources and also their right to live. At this level, where uncertainty is highest, the firm has to correspond to rules of external forces. The managerial level is required to moderate between the need of certainty at technical level and notion of uncertainty at institutional level. Both analyzing the data harvested through environmental scanning and envisioning uncertainty minimization systems to improve firm's efficiency are also managerial level tasks. (Thompson, 1967).

Managers spend plenty of their time for environmental scanning most of which appears to be informal and unguided (Aguilar, 1967). In addition to this, Keflalas and Schoderbek (1973) assert that high level executives in dynamic environments expend greater share of their working day in order to obtain external information compared to peers in less-changing industries. Studies of both Keflalas-Schoderbek and Aguilar show that functional area and hierarchical level are not necessarily associated with the amount of environmental scanning or with the number of sectors scanned. Pfeffer and Salanick (1978) propose that as a strategic task of a firm, scanning direction of managers highly derives from their understanding of the need for information. Moreover according to the studies of West and Olsen (1989) there are two necessary conditions for any environmental scanning system to survive, grow and be effective: top management support, commitment, and time for the system to be effectively assimilated into the corporate culture. Therefore, the supporting idea is that, for the environmental scanning strategy to succeed, the commitment of all factors within and outside of the company is the most crucial prerequisite.

Believing that environmental scanning eliminates uncertainty can cause executives to misunderstand the perception of security. It can lead them to neglect external signals. Scanning can help managers deal with uncertainty, if only they recognize that uncertainty can be minimized, not totally eliminated (Hambrick, 1981; Barringer and Bluedorn, 1999).

The idea that scanning contributes to firm performance based on empirical results of Boyd and Fulk (1996); Daft, Sormunen and Parks (1988). Bourgeois (1985) found that a firm which scans its environment with greater perceptual accuracy can achieve a higher economic performance compared to an average level competitor. Research by West and Olsen (1988) also shows that there is a high correlation between firm scanning behavior and performance in the industry.

The studies of Duncan (1972) showed that the totality of physical and social factors that are taken directly into consideration in the decision making behavior of individuals in the organization is vital. The environment is viewed as a source of information, continually creating signals and messages that organizations should

attend to (Dill, 1962; Weick, 1979). Choo and Auster's studies (1993) also reinforces the hypothesis that the individuals play a major role in adapting to the environment. Firms do their scanning on the competition, customer, regulatory, and technological sectors of the environment. Much less importance seems to be given to the economic and socio-cultural sectors. In most cases, the chief executives used environmental information in the entrepreneur decisional role, initiating new products, projects, or policies. The chief executives acquire or receive environmental information from multiple, complementary sources. Among these sources, personal sources are used very frequently in their scanning and decision making.

The most heavily used personal sources are business associates and internal staff. At the same time, printed sources such as newspapers, journals, and external reports are also highly used, especially for information on the technological and regulatory sectors. There is some evidence to suggest a differential usage of information sources-information on the customer and competition sectors seems to be obtained mainly from personal sources, whereas information on technological, regulatory, and economic sectors seems to come also from printed and formal sources. (Choo and Auster, 1993)

Another study carried by Narchal, Kittappa and Bhattacharya (1987) argues that every company, for its survival and growth, has to look to the future. It has to interact with the uncertain environment. The interaction with the environment, if carried out by having a formal "System of Scanning the Business Environment", will create better opportunities for the company to achieve an enhanced growth. It will also forewarn the company about dangers from the environmental missiles directed towards itself by acting as environmental radar and giving an early warning to have the chance to plan for counteracting strategies. An ad hoc interaction with the environment may only lead to chaotic conditions in the company in relation to its survival and growth in the future (Narchal, Kittappa and Bhattacharya, 1987).

Until now, a broad summary on the main studies on the environmental scanning is provided. However on the route to going specific rather than general, Davis's studies shed light to the environmental scanning's affects on the individual

performance of the firms (2009). Today's business environment is dynamic and unpredictable (Peck et al, 1999; Webster, Malter and Ganeson, 2005; Wartick and Wood, 1998). Ecological factors, technological advances, market deregulation and global competition continually change the dynamics of the market (Peck et al, 1999) and a firm's level of competitiveness. Cost-cutting pressure from shareholders which promotes downsizing, a focus on short-term financial results, and outsourcing are forcing firms to evolve to a market-centric view of the external environment (Webster, Malter and Ganeson, 2005). Following that idea, a broad research on environmental scanning is made by Bradley (1995) and reinforced by Davis (2008). According to them, the environmental scanning must be carried out by separating the environment into two; micro and macro environment.

Bradley (1995) considers political, cultural, demographic, physical and natural, legal and regulatory, technological, economic, and factors of competition to be elements of the macro-marketing environment. Macro-marketing elements represent factors that are often complex, abstract, and outside the control of the organization. Interest and exchange rates, levels of unemployment, and pace of technological change are examples of factors in the macro environment that affect the firm's business goals or policies. The firm's micro-marketing environment (Bradley, 1995) includes such factors as customers, intermediaries, ethical constraints, sustainability and resource limitations, competition, government regulation, and suppliers. Micro-marketing factors comprise elements that directly and indirectly affect the firm's operations and its short-term (and long-term) success. The firm may have a greater degree of control over its micro-marketing environment factors. Management experiences uncertainty when it makes decisions where it does not have sufficient and timely information concerning the factors in the firm's macro- and micro-marketing environment relevant to the firm (Bradley, 1995).

The classic application of external information gleaned from an environmental scanning process is in support of management decision making, strategy development (Saxby et al, 2002), and planning. The reason for having accurate, timely, and valid external information, for better decision making and planning, is to increase competitiveness (Davis, 2008).

Formal environmental scanning systems are an established business activity in some large corporations, which have the resources to conduct thorough, systematic environmental scanning and recognize the risks of not consistently monitoring their external environment. Smaller firms may not have the resources and the will to make a long-term commitment to have formal environmental scanning systems. Firms that do not have a market orientation do not have an external orientation and may not value external information. Firms emphasize centralized decision making, individualistic goals, and rigid chain of commands, and are often less than receptive to ideas from outside of the firm (Lauzen, 1995). Moreover Stoffels (1994) reminds us that environmental scanning has additional barriers that lessen its effectiveness: analysis performed on data may lack credibility, the cost/benefit ratio of environmental scanning is indeterminate, and the firm may have a bias toward immediate results. In total, this discussion leads to the following hypothesis:

H1: The level of environmental scanning in SMEs will be positively related to their firm performance.

2.2 Planning Flexibility and Firm Performance

Flexibility, as reflected in the literature, subsumes several aspects and dimensions (Sethi and Sethi, 1990; Volberda, 1998). Planning flexibility refers to the capacity of a firm's strategic plan to change as environmental opportunities/threats emerge. The notion of planning flexibility was first suggested to investigate how environmental and firm characteristics affect the design of strategic planning systems. In complex environmental settings; firms maximize performance by adopting "flexible" planning systems (Kukalis, 1989; Barringer and Bluedorn, 1999). Flexible planning systems allow firms to revise their strategic plans quickly to pursue opportunities and keep up with environmental change (Stevenson and Jarrillo-Mossi, 1986). Kukalis (1989) theorizes that firms in highly complex environments need flexible planning systems because of the frequency of change in their business environments. According to Miller and Shamsie (1996) increasing market dynamism has forced companies to shift their focus from economies of scale and property-based resources to flexibility and knowledge-based resources in order to defend and

improve their competitive position. Flexibility has become the most important factor in achieving competitive advantage (Lau, 1996).

Factors contributing to the competitive performance of small and-medium-sized firms have long been attracting the attention of researchers and business owners/managers. Research in the strategic management literature provides a long list of strategic, structural, managerial, cultural, and procedural aspects as antecedents of high performance in SMEs (Churchill and Lewis, 1983; Covin and Covin, 1990; Deshpande and Parasuvaran, 1986; Shuman, Shaw, and Sussman, 1985). The superior performance in the competitive arena requires an effective combination of all relevant internal organizational elements, i.e. strategy, culture, climate, processes, and procedures enabling greater adaptability to the rapidly changing customer preferences and dynamic marketplace factors (Baker and Sinkula, 1999; Naman and Slevin, 1993). Accordingly, a market-oriented organizational culture and flexible strategic planning approach have been suggested as key performance leverages for business firms (e.g. Barringer and Bluedorn, 1999; Slater and Narver, 1998).

In the literature, much effort is devoted to defining various types of flexibility. In their review, Sethi and Sethi (1990) identified more than 50 different terms covering various aspects of flexibility. Traditionally, flexibility has been considered synonymous with volume flexibility and the ability to adjust output volume to changes in demand. Recently, however, flexibility has also been related to the capacity to change and develop products, and to such strategic issues as entering new markets or new industries (Harrigan, 1985; Ghemawat; 1991; Volberda, 1998; Fahy and Smithee, 1999).

The literature faces a drought of the empirical studies regarding flexibility's direct effects on the firms' performance. The main reason behind this is the difficulty of demonstrating competitive advantage with empirical studies that are directly related to observations (findings) from one firm to other firms in the industry concerned as Barney and Zajac (1994). They discuss this obstacle by saying that literature contains many generalizations about the merits of some resources,

conjectures that often fail to consider the contexts within which these resources might be of value to an organization. However the studies of Dreyer and Grønhaug (2004) show that the industrial environment itself will have a major impact on the ability of various resources to achieve competitive advantage, which helps to overcome several problems in finding relevant sources at the level of the firm. Moreover, much of the theoretical discussion regarding the notion of flexibility is divided into four main types; operational flexibility (Tang and Tikoo, 1999), financial flexibility (Mensah and Werner, 2003), structural flexibility (Harris and Ruefli, 2000) and technological flexibility (Adler, 1988; Harris, 2002). However, an assessment of their respective impact on performance in a strategic planning context is absent from the literature.

The literature assumes a negative relationship between flexibility and productivity, though this has not yet been tested empirically. The view in the management literature is that the development of some forms of flexibility may conflict with others (Upton, 1995; Volberda, 1998). Dreyer and Grønhaug's studies (2004) showed that it is difficult to give a high priority to financial flexibility without a careful investment policy, which implies giving lower priority to developing other necessary forms of flexibility, such as volume and product flexibility. Its competitive position, however, the firm must exploit opportunities and neutralize threats in its competitive environment and it is possible to achieve sustained competitive advantage in highly uncertain environments. The study of Alpkın et al. (2007) demonstrates that planning flexibility exerts a negative effect on firm performance while market dynamism is higher.

On the other hand there is empirical support for a positive association between strategic planning and performance (Rhyne, 1986; Miller and Cardinal, 1994; Brews and Hunt, 1999; Andersen, 2000; Delmar and Shane, 2003), there is also evidence suggesting that no such relationship exists (Shrader et al., 1984; Pearce, Robbins and Robinson, 1987).

Key function of planning process in organizations is to enable opportunities in order to correspond to unstable environmental circumstances. Firms become to react

against threats and create a mechanism to reduce uncertainty in the environment by planning. Researches on this field have shown that the need to adapt to environmental conditions is subject to the nature of firm environment and also this need is a part of strategic planning process. Thus, most empirical research about the structure of strategic planning process focuses on the impact of organizational environment. Another point researches reveal is that organizations with flexible structures and processes are awarded by the notion of environmental uncertainty by means of showing better adaptation to external conditions (Ansoff, 1979; Lorange, 1980; Grinyer et al., 1986; Chakravarthy, 1987; Hax and Majluf, 1990). According to Tasan (2008), planning should be flexible (responsive to reflect the plural characteristics of the society) to facilitate non-linear and multilayered decision-making. On the other hand, when implementation is too flexible, (opportunity-led) the demands of the private sector will prevail, and the public sector will lose the controlling power. Finding the balance between these connotations of flexibility in planning practice, namely complexity, opportunism, and diversity is the struggle for planners.

Prior studies aimed to establish relations between environmental uncertainty measures and planning process characteristics (Lindsay and Rue, 1980; Javidan, 1984). The significance of aggressive environmental conditions has also been emphasized in some studies pointing environment-strategic decision processes (Utterback, 1979; Snyder, 1981; Daft et al., 1988). However while this relationship is of importance to organizations practicing strategic planning, the critics suggest that other factors will impact on the relationship between strategic planning and performance (Schwenk and Shrader, 1993; Meilich and Marcus, 2006). Most of the studies predict that successful organizations will anticipate and address environmental turbulence through strategic planning (Miller and Cardinal, 1994; Rogers et al., 1999).

Organizations, through strategic planning, anticipate environmental turbulence and allocate resources accordingly. By being flexible, alternative decision options are generated and considered, which may be deployed as and when particular opportunities or threats arise within the environment. As this process occurs prior to

the impact of turbulence, flexibility in the organization is anticipatory and preparatory in nature (Evans, 1991). In addition to that, the study of Rudd et. al. (2008) supports the idea that flexibility mediates the relationship between strategic planning and performance. Both operational and financial flexibility mediate the influence of strategic planning on financial performance, while structural and technological flexibility mediate its influence on non-financial performance. In planning decisions under uncertainty, future plan feasibility/flexibility and economic risk are two important factors that have to be monitored and balanced against expected profit (Ierapetritou and Pistikopoulos, 1993).

From the earliest studies, such as the one by Eppink (1978) to the most contemporary ones, such as Wang and Cao's studies (2008), all researches support the main theory that making an organization less vulnerable to external change is easier by increasing external flexibility that will result as a boost up to the firms' performance. The empirical study done by Andersen (2000) provides evidence that strategic planning (that emphasizes elements of the conventional strategic management process) for flexibility is associated with higher performance in all the industrial environments studied. The performance effect of strategic planning does not vary significantly between the different industry groups. Hence, strategic planning for flexibility is an important performance driver in all industrial settings, and enhances both economic performance and organizational innovation. Strategic planning processes are essential to good performance in all industrial environments and should not be ignored (Andersen, 2000).

Therefore we propose the following hypothesis:

H2: The level of planning flexibility in SMEs will be positively related to their overall performance.

2.3 The Moderating Role of Market Dynamism in Environmental Scanning-Performance Relationship

As the ancestor of the planning approach in strategy, Ansoff (1979), suggests that the nature of the environmental change was altering and giving rise to strategic surprise. The basic effect of uncertainty is that it limits the ability of the organization to pre-plan or make decisions about activities in advance of their execution. The more uncertain the situation, the more an organization will need flexibility as a complement to planning which in these situations the use of planning strategies would be increasingly supplemented and sometimes replaced by preparedness or flexible strategies. Weitz and Anderson (1981) state that the key factor in determining the method for organizing and controlling the marketing function is the environment in which the marketing function is to be performed. Empirical research in marketing has been geared toward understanding the relationship between environmental turbulence and strategic market planning (Silverblatt and Korgaonkar, 1987) which lead the way of studies to show the interaction between market dynamism and environmental scanning.

The dynamism describes the rate and the unpredictability of change in a firm's external environment (Dess and Beard, 1984), and is particularly important because of its influence on relationships between a variety of firm-level constructs and firm performance. Firms facing turbulent business environments are more likely to manage such environments by developing long-term and complete plans. Decentralization of strategic market-planning activities are more common among companies facing turbulent environments than those facing stable environments (Silverblatt and Korgaonkar, 1987). Moreover, organization structures that are shaped according to adapt to a turbulent environment have better credibility and increasing performance (John and Martin, 1984).

The increasing complexity in the business environment has reached to the maximum level that ever has. This complexity derives in part from exponential increases in organizational information processing capabilities, an increasingly dynamic and global business environment, and increasing amounts of information

about both the content and structure of this environment (Satish, 1997). Growing environmental complexity offers organizations both problems and opportunities (Neill et al., 2007). According to Boisot and Child (1999) organizations can either reduce or absorb this complexity. They can reduce complexity focus internally and attempt to buffer their internal systems from the distractions of environmental change. They consider multiple competing interpretations when formulating response to these complexities (Gell-Mann, 1994). As Weick (1995) interprets the success and adaptation to the changing environment surrounding the organizations is achieved by developing more varied images of the environment, with “engaging in sense-making that is more adaptive”.

A summary of the earlier literature on environmental uncertainty (Argote, 1982) noted vagueness about uncertainty. Although the notion of unpredictability led some researchers to solicit probabilities of outcomes of environmental variables, many studies continue to use Likert-type scales to measure uncertainty or use varieties of surrogate variables believed to make the environment uncertain (Soofi, Nystrom and Yasai-Ardekani, 2009). Environments that shift in more unpredictable ways (Wholey and Brittain, 1989) generate greater uncertainty, and uncertainty is a central problem confronting organizations (Thompson, 1967). Grounding the concept of environmental uncertainty in information theory has important implications for management research (Soofi, Nystrom and Yasai-Ardekani, 2009). The literature regarding the relationship between the market dynamism and environmental scanning is based on organizational learning and market orientation. Studies of organizational learning have examined learning as a process that occurs in response to environmental change and unfolds over time (Baker and Sinkula, 1999; Sinkula, 1994; Sinkula, Baker and Noordewier, 1997). Whereas studies of market orientation have examined the ability of a firm to collect and react to environmental information by generating, disseminating, and responding to information about customers and competitors (Jaworski and Kohli, 1993; Kohli and Jaworski, 1990; Narver and Slater, 1990; Slater and Narver, 1995).

Market orientation is a specific form of organizational culture that focuses on "delivering products and services valued by customers, usually accomplished

through ongoing monitoring of market conditions, and adaptation of organizational responses" (Grewal and Tansuhaj, 2001). Pelham and Wilson (1996) assert that a market oriented culture is the main source of competitive advantage for today's business firms, facilitating customer-driven value creation. A market oriented organizational culture may work as a critical driver of various aspects of superior performance including product quality, new product success, and profitability not only for large-scale firms (Deshpande, Farley and Webster, 1993; Hult and Ketchen, 2001; Jaworski and Kohli, 1993; Kohli and Jaworski, 1990; Morgan and Strong, 2003; Narver and Slater, 1990; Noble et al., 2002; Slater and Narver, 1994) but also for small and medium enterprises (Appiah-Adu and Singh, 1998; Pelham, 1999; Pelham and Wilson, 1996).

Empirical studies (e.g., Hansen and Wernerfelt, 1989) bring into question the extent of industry environment influence on managerial decisions. Organizational adaption could provide smaller firms an inherent advantage over larger competitors, over larger competitors, characterized by bureaucratic features and dysfunctional inertia (Hitt and Ireland, 1985). Market orientation may be especially important for small firms, because market-oriented firms can leverage their potential advantages of flexibility, adaptability, and closeness to their customer base into superior, individualized service (Dierickx and Cool, 1989).

Theoretical bases for a market orientation-performance link have been established by Kohli and Jaworski (1990), Narver and Slater (1990), and Pelham and Wilson (1996). These bases include the concept of sustainable competitive advantage (Aaker, 1988) and the strong culture hypothesis (Weick, 1985). Empirical links between market orientation and growth, as well as profitability, have been established by Jaworski and Kohli (1993), Narver and Slater (1990), and Pelham and Wilson (1996), while its link to relative product quality, new product success, and customer retention has been established by Pelham (1999). According to Pelham (1999) market orientation should have a greater influence as compared to environmental characteristics .

The information of the trend in the market and its link with the environmental scanning has crucial contribution to the literature. In their study of market orientation, Kohli and Jaworski (1990) identified three key market information processes: the generation of market information, the dissemination of that information throughout the firm, and the organization-wide responsiveness of the firm to that information. Moorman (1995) extended the Kohli–Jaworski framework by distinguishing between the conceptual and instrumental use of market information. More recently, Keh et. al. (2007) found that information use had a direct impact on the performance of small and medium sized firms, while information acquisition indirectly influenced performance through its impact on information utilization. Studies of organizational learning suggest that environmental factors can moderate the way in which market information processes influence firm performance (Sinkula, 1994; Baker and Sinkula, 2007; Menon and Varadarajan, 1992; Hanvanich, Sivalumar and Hult, 2006). Unanticipated changes in the environment in general, and customer preferences in particular, create instability and increase the importance of adaptive skills (Lusch and Laczniak, 1987). Effective firms discern and respond to such changes based on their knowledge of changing market conditions (Achrol et al., 1983). For these reasons, the importance of a firm's market information processing capabilities should increase when market uncertainty increases. In the next section, we use these insights to develop a contingency model of the information processes–performance relationship. Song, Wang and Parry's (2009) findings indicate that, regardless of market conditions, formal processes for the collection of market information are positively associated with the use of formal processes for market information utilization, and this relationship is stronger in established markets.

In the highly changeable and uncertain market in which they operate, it is important for new venture managers to invest in formal processes to acquire and use market information, regardless of whether the market is emerging or established (Song, Wang and Parry, 2009). The study of Quintas, Lefrere, and Jones (1997) suggests that the management of knowledge, and its correlate intellectual capital, can be a key source of organizational advantage. Knowledge management in an organizational context does not mean managing everything that is known (assuming it could be gathered together in some way). It is concerned with creating and

mobilizing certain knowledge (some of which an organization may not even know it has) for certain purposes (such as competitive advantage or greater efficiency). This debate supports the following hypothesis:

H3: The performance impact of environmental scanning in SMEs is moderated by market dynamism.

2.4 The Moderating Role of Market Dynamism in Planning Flexibility- Performance Relationship

Market dynamism refers to frequent changes in the industry, including changes of market elements such as customer demand, technology, competitor structure, etc. (Achrol and Stern, 1988; Jap, 1999). Frequent change in an industry decreases strategic certainty and increases the difficulty of accurate planning, forecasting and cost reductions (Sheth and Parvatiyar, 1992). In highly dynamic markets, frequent changes in customer demand, business practices, etc., require firms to quickly modify their products or services to remain competitive in the market (Jap, 1999).

A longstanding question in strategy and organization theory is how the amount of organizational structure shapes performance in dynamic environments. Given its fundamental importance, this question has been explored in a variety of research traditions, ranging from organizational studies (Burns and Stalker, 1961; Hargadon and Sutton, 1997) and competitive strategy (Rindova and Kotha, 2001; Rothaermel, Hitt, and Jobe, 2006) to network sociology (Uzzi, 1997; Owen-Smith and Powell, 2003) and, more broadly, the complexity sciences (Kauffman, 1993; Anderson, 1999).

In the past decade, emphasis has increased on the use of strategic decision making and planning as the primary means of adapting to ever changing organizational environments. For example, environmental analysis provides the needed input for strategy formulation and evaluation (Schendel and Hofer, 1979). Kerin and Peterson (1981) state that organizational opportunities and strategic direction result from matching environmental opportunities with organizational capabilities, acceptable levels of risk, and resource commitments. Correspondingly,

the concept of “environmental scanning” (i.e., the process by which executives learn of events inside and outside their organization) has received considerable attention. Moreover, strategic flexibility has been viewed as a critical organizational competency that enables firms to achieve and maintain competitive advantage and superior performance (Zhang, 2006).

According to Lau (1996), flexibility has become the most important factor in achieving competitive advantage. In order to remain competitive, however, flexibility in dealing with rapid change must not result in a loss of productivity and quality (Ahmed et al., 1996; Volberda, 1998).

Traditionally, flexibility has been considered synonymous with volume flexibility and the ability to adjust output volume to changes in demand. Recently, however, flexibility has also been related to the capacity to change and develop products, and to such strategic issues as entering new markets or new industries (Harrigan, 1985; Ghemawat; 1991; Volberda, 1998; Fahy and Smithee, 1999).

One of the main problems facing managers with regard to flexibility is how to balance change and continuity (Dreyer and Grønhaug, 2004) i.e. face the consequences of market dynamism. Many issues have attracted more attention in strategy research than the relationship between the mode of strategic planning adopted by the firm and the economic performance of the firm. Decades of planning/performance research have yielded inconsistent findings (Brews and Hunt, 1999). One methodological explanation for the inconsistencies and perhaps the most serious indictment of early planning/performance research stems from the poor conceptualizations and measurement protocols utilized to operationalize the planning construct (Boyd, 1991). Following the inconsistent and often counterintuitive findings emerging from the first two waves of planning/performance research (Pearce et al, 1987) more sophisticated Guttman scaling techniques (Guttman, 1944) were employed to measure the planning construct of planning/performance research (Pearce et al., 1987).

The impact of environment on the type of planning employed by firms is seen as the second reason of the inconsistencies between firms’ planning and market

dynamism. Some studies (Eisenhardt, 1989; Goll and Rasheed, 1997; Hart and Banbury, 1994; Miller and Cardinal, 1994; Miller and Friesen, 1983; Priem, Rasheed and Kotulic, 1995) found that formal strategy making processes or planning are positively associated with firm performance in unstable, turbulent or dynamic environments. Other studies emphasize formal strategic planning is best suited to stable environments (Fredrickson, 1984; Fredrickson and Mitchell, 1984; Fredrickson and laquinto, 1989; Mintzberg, 1973) but recommend incrementalism for unstable, complex, dynamic environments facing high uncertainty, discontinuity and/or rapid change.

Bourgeois (1981) argued that contingent upon the requirements of the environment, slack could play a detrimental or beneficial role. Nohria and Gulati (1997) warned against a total reduction of slack without considering its consequences on investments for the future. The assessment of the costs and benefits of slack highlight a valid argument that can be extended to the study of flexibility in manufacturing. As the environment dictates the amount of slack that firms might maintain, it also affects the type and extent of manufacturing flexibility that is appropriate. Miller and Friesen (1983) described dynamic environments as consisting of two distinct characteristics, "rate" and "unpredictability" of change (Anand, 2004). He related these environmental characteristics to different methods that would be suitable for attaining flexibility. According to Anand and Ward (2004), there is need for fit between environment and strategic flexibility, and such fit pays off in performance. Moreover he argues that the interaction effect between unpredictability and volatility dimensions on performance is a good measure of fit i.e., fit as moderation (Venkatraman, 1989).

Several researchers have provided flexibility typologies (Gerwin, 1993; Sethi and Sethi, 1990). It is difficult to use the different types of flexibility for analyses across different industries because the categorizations do not capture local nuances of flexibility (Upton, 1994).

To avoid the pitfalls of such overlapping classifications, flexibility can be classified on the basis of its underlying elements of "range" and "mobility" (Koste

and Malhotra, 1999; Upton, 1994). Schwenk and Shrader (1993) found that formal strategic planning has a positive impact on firm performance. More recently, Coviello et al. (2000) reported that managers in small firms believed their firms would benefit from the use of formal planning processes. However, they did not examine the relationship between formal marketing processes and performance.

The studies of Anand and Ward (2004) develops the notion of environmental fit and flexibility and illustrates the importance of such fit empirically. Two dimensions of environmental dynamism are identified and the fit between them and different approaches to flexibility are assessed presence of the unpredictability or the volatility aspects of environmental dynamism each warrant the use of different types of manufacturing flexibility strategies. This shows that there is not a universal strategy showing the best fit.

Following industrial developments, emphasis in academic research has turned to the use of manufacturing flexibility as a response to dynamic environments. Miles and Snow (1978) argued that a proactive approach is required of firms that operate in dynamic environments. Bourgeois (1985) argued against Thompson's (1967) view that "buffering the technical core" enables firms to deal with environmental dynamism. Bourgeois (1985) empirically demonstrated the pitfalls of such an approach by showing that reducing the need for flexibility by using long-term contracts and buffers would only be beneficial in stable environments. Vokurka and O'Leary-Kelly (2000) proposed that firms that achieve an appropriate fit between a composite of strategy, organizational attributes, technology, and environmental factors, and manufacturing flexibility would exhibit higher levels of performance.

Upton (1994) provides examples and arguments for conditions under which the elements of range and mobility would gain more importance backing up the idea that planning flexibility is important. Using the business situation of a mechanical seal manufacturer, John Crane U.K. Ltd. as an example, he demonstrated how changes in technology and in competitors' strategies forced the company to build capabilities to switch between products and volumes, thus emphasizing the planning flexibility. Davis (2009) supports his idea with his study that there are two fundamental

arguments in complexity theories. The first argument is that a balance between too much and too little structure is critical to high performance for organizations in dynamic environments. The second argument is that achieving high performance with moderate structure is influenced by the changing nature of environmental opportunities (Adler, Goldoftas, and Levine, 1999; Rindova and Kotha, 2001). Highly dynamic environments require flexibility to cope with a flow of opportunities that typically is faster, more complex, more ambiguous, and less predictable than in less dynamic environments. Research shows that high-performing organizations cope with dynamic environments with less structure (Eisenhardt and Martin, 2000; Rowley, Behrens, and Krackhardt, 2000).

These two contradicting issues suggest a lack of specific understanding in diverse literatures of the fundamental relationships among structure, performance, and environment. This is the gap that I would like to address by exploring the relationship between the ability of successful environmental scanning, planning flexibility and performance of the SMEs .

The literature describes a number of well-developed dimensions of planning strategies that describe different possible modes of variation (D'Aveni, 1994). Furthermore operations scholars have classified the ways in which production can be flexible (Gerwin, 1993). However the studies of Anand and Ward (2004) show that the market dynamism plays a crucial role in determining the types of flexibility strategies that would be suitable while it is very important to recognize the importance of environmental fit when considering flexibility. Moreover, Grant and Cibin (1996) argues that development of structures and systems which retain the scale and resource advantages of large organizations, while developing the flexibility and responsiveness needed to compete effectively within the dynamic and unpredictable market environments. The researches have included velocity (Eisenhardt, 1989), complexity (Gavetti, Levinthal, and Rivkin, 2005), and ambiguity (March and Olsen, 1976; Rindova and Kotha, 2001) as major dimensions of environmental dynamism. But though these dimensions have intriguing implications for strategy and performance (see below), only unpredictability influences optimal structure (Davis, 2009). This is also backed up by the studies of

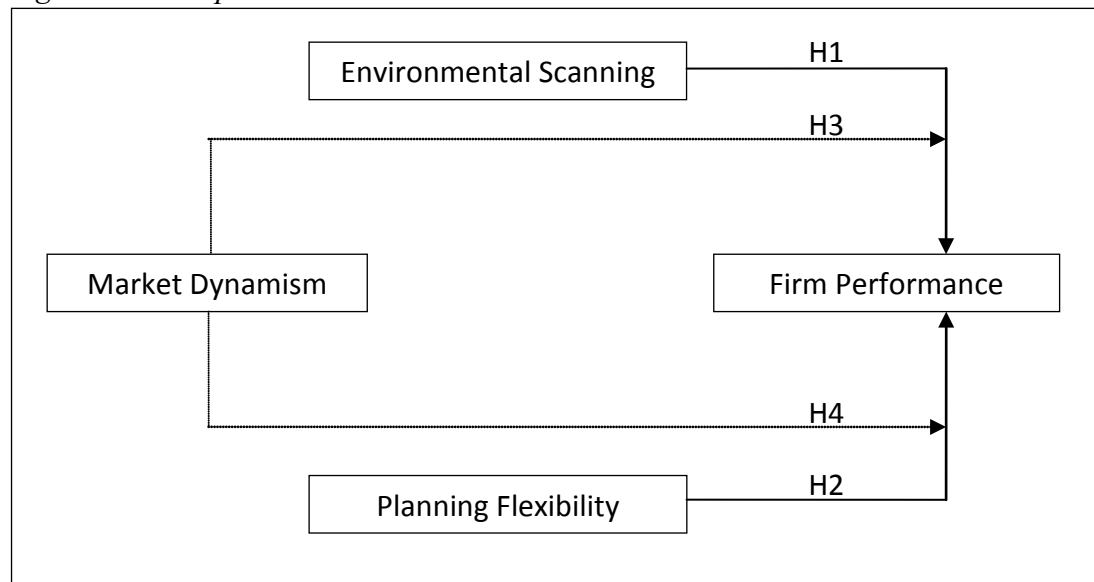
Dreyer and Grønhaug (2004) as he claims that it is possible to achieve sustained competitive advantage in highly uncertain environments.

As a result we hypothesize:

H4: The performance impact of planning flexibility in SMEs is moderated by market dynamism.

Based on the above mentioned literature discussion and proposed hypotheses we develop a conceptual model of relationships – depicted in Figure 1- to be tested empirically.

Figure 1. Conceptual Model



3 METHOD

3.1 Data Collection

Scope, hypotheses, research model, scales used in research and sample will be explained in this section. This study has been constructed on both theoretical and practical bases. Theoretical section has been prepared via extensive literature search and reported above. Data needed for field search has been collected through face-to-face questionnaire technique with top executives of the SMEs in the Turkish manufacturing industry. The sampling frame consists of randomly selected 600 firms among 1200 manufacturing SMEs. As a result, the effective sample size of the study is 400. Gathered data have been analyzed in SPSS (Statistical Package for Social Sciences) software.

3.2 Measurement of Constructs

The constructs in our study are developed by using measurement scales adopted from prior studies. All constructs are measured using five-point Likert scales with anchors strongly disagree (= 1) and strongly agree (= 5). 6 items for measuring environmental scanning are adopted from Barringer and Bluedorn (1999) and additional 2 measures are self-developed. The planning flexibility scale (6 items) is also adopted from Barringer and Bluedorn (1999). Similarly, 2 items are taken from Homburg et al. (1999) to measure different aspects of firm performance which are market share and earning profits in addition to 3 self-developed measures. Lastly, 3 items are self-developed and another 3 items are selected from Appiah-Adu and Singh (1998) and Pelham and Wilson (1996) in order to measure market dynamism. Self-developed items are shown with an asterisk (*) symbol in Table 1.

3.3 Measure Validation

In this section, we have first calculated the factor loadings of the items grouped under different factors via Principal Component Analysis by Varimax Rotation Method. As 400 executives are surveyed, they provided numerical answers to the

questions according to their perceptions. All scales with numerical answers representing the opinions of the executives were initially submitted to exploratory factor analysis with Varimax Rotation. The factor analyses produced totally four factors as anticipated and are shown in Table 1 - with a total variance explanation (TVE) of 54.80 %.

Table 1. Rotated Component Matrix for the questionnaire items

Items	Components' Factor Loadings			
	Environmental Scanning	Firm Performance	Planning Flexibility	Market Dynamism
Economic trends	,780			
Technological trends	,764			
Supplier strategies	,698			
Demographic trends	,686			
Distributor strategies*	,628			
Customer needs and preferences	,606			
Threats and opportunities*	,590			
Competitor strategies	,585			
Return on sales (ROS)*		,913		
Return on assets (ROA)*		,909		
Earning profits		,874		
Market share		,708		
Total volume of sales*		,654		
The emergence of an unexpected threat			,751	
Changes in governmental regulations			,750	
The emergence of an unexpected opportunity			,745	
The emergence of a new technology			,699	

Political developments that effect your industry			,693	
Shifts in economic conditions			,557	
Complexity, divergence and incomprehensibility of competitor behaviors*				,758
Complexity, divergence and incomprehensibility of customer needs*				,739
Constant changes in competitor's strategies/actions				,720
Rate at which products/services become obsolete				,670
Different and complex product combinations*				,666
Changes in customer needs				,642
Variance explanation ratios	15,538	14,089	12,931	12,242

Total variance explained: 54,800

Extraction method: Principal Component Analysis.

Rotation method: Varimax with Kaiser normalization.

Internal consistency or scale reliability is a commonly used psychometric measure in assessing survey instruments and scales. Internal consistency is an indicator of how well the different items measure the same concept. This is important because a group of items that purports to measure one variable should indeed be clearly focused on that variable. Internal consistency is measured by calculating a statistic known as Cronbach's coefficient alpha (Zhang, 2000; Cronbach, 1951; Nunnally, 1967). Specifically, the item-score correlations are used to determine whether an item belongs to the scale as assigned, to some other scales, or should be eliminated. The scale-score is obtained by computing the arithmetic average of the scores of the items that comprise that scale. The values of item-to-scale-correlations should be greater than ,7; those lower than ,7 do not share enough variance with the rest of the items in that scale. Therefore, it is assumed that the items are not measuring the same construct and it should be deleted from the scale. All scales

exhibits adequate internal consistency with Cronbach alpha coefficients greater than ,7 (Nunnally, 1967). Our scores range from 79,79% to 88,77%. Consequently, each item contributes to the derived scale index and is therefore a valid indicator of the relevant construct. Cronbach's Alpha Scores (%) are provided in the Table 2.

Regarding to the results of the above statistical tests for validity and reliability, we assumed that our factors are sufficiently valid and reliable to test our hypotheses. Accordingly we produced four constructs to be used in the further tests, namely, environmental scanning, firm performance, planning flexibility and market dynamism.

Table 2. Reliability Scores of the Study Variables

<i>Variables</i>	Environmental Scanning	Firm Performance	Planning Flexibility	Market Dynamism
<i>Cronbach's Alpha Scores (%)</i>	83,88	88,77	80,59	79,79

3.4 Analyses

3.4.1 Pearson Correlations

Table 3. Pearson Correlations

	Environmental Scanning	Planning Flexibility	Market Dynamism
Planning Flexibility	,341(**)		
Market Dynamism	,175(**)	,032	
Firm Performance	,280(**)	,122(*)	,083

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

* Correlation is significant at the 0.05 level (2-tailed). Two-tailed Pearson Correlations.

Pearson correlations are computed between the variables in Table 3. The correlation matrix shows statistically significant correlation in the expected direction between environmental scanning and firm performance ($p < 0.01$). Market dynamism is correlated positively with environmental scanning on a lower level ($p < 0.01$). However, one can easily perceive that there is an unexpected but strong correlation

between planning flexibility and environmental scanning ($p < 0.01$) which leads us to perform further analysis for a possible mediator effect. There is also a positive correlation between planning flexibility and firms' overall performance ($p < 0.05$) however it loses its significance because of above mentioned strong planning flexibility-environmental scanning association that will be reported later on.

3.4.2 Hypotheses Tests

3.4.2.1 Direct Effects (H1-H2)

Table 4. Direct Effects

Model 1	Variables	Standardized Beta Coefficients	t	Significance
	(Constant)		6,816	,000
H1 (supported)	Environmental Scanning	,263	5,060	,000
H2 (rejected)	Planning Flexibility	,031	,605	,545
	Market Dynamism	,036	,730	,466
		R ²	,074	
		F	11,560	,000

a Dependent Variable: Firm Performance

Table 4 provides an insight of the direct effects among environmental scanning, planning flexibility and market dynamism by using statistical results of the analyses we have conducted. Our first hypothesis (supported) has a high standardized beta coefficient (.263) compared to our second hypothesis (.031 and .036). From this outcome, we can commend that environmental scanning has a highly significant impact on the firm performance. However, the effect of planning flexibility on the firm performance is dramatically low that enables us to reject the second hypothesis. Moreover, market dynamism is found to be ineffective again on firm performance.

3.4.2.2 Moderating Effects (H3-H4)

Table 5 shows that product (multiplication / interaction) of environmental scanning and market dynamism exerts a significant impact (a standardized beta coefficient of .275) on firm performance which provides support for the third

hypothesis. Conversely, the interaction of planning flexibility and market dynamism does not demonstrate a considerable effect on firm performance. That makes us to reject the fourth hypothesis. Accordingly, we accept that when market dynamism is high, the positive relationship between environmental scanning and firm performance is increasing. But, as for the planning flexibility-performance relationships such a moderating effect of market dynamism is not confirmed.

Table 5. Moderating Effects

Model 2	Variables	Standardized Beta Coefficients	t	Significance
	(Constant)		27,563	,000
H3 (supported)	Environmental Scanning * Market Dynamism	,275	2,751	,006
H4 (rejected)	Planning Flexibility * Market Dynamism	-,092	-,919	,359
		R ²	,035	
		F	8,269	,000

a Dependent Variable: Firm Performance

3.4.3 Test of Non-hypothesized Relations (The Mediator Role of Environmental Scanning)

Correlation coefficients uncover the existence of one-to-one relations among each of the variables except market dynamism. The planning flexibility is correlated to environmental scanning (,341**); and firm performance (,122*); and also environmental scanning is correlated to and firm performance (,280**). Furthermore, the regression analyses indicate that the correlation between planning flexibility and firm performance disappears when regressed together with environmental scanning. Though, we have decided to investigate an overshadowing effect of environmental scanning in the relationship between planning flexibility and firm performance. In order to do so, we initially regressed all the two independent variables together with firm performance in the first model; then we regressed just planning flexibility in the second. Results approve the mediator role of the environmental scanning, since the one-to-one correlation of planning flexibility to performance disappears due to the

overshadowing effect of environmental scanning. In other words the effect of planning flexibility on firm performance follows a path through environmental scanning. Table 6 and Table 7 show those findings.

Table 6. Effects of Environmental Scanning and Planning Flexibility Together

Model 3	Standardized Beta Coefficients	t	Significance
(Constant)		7,387	,000
Environmental Scanning	,270	5,271	,000
Planning Flexibility	,030	,584	,560
	R ²	,075	
	F	17,095	,000

a Dependent Variable: Firm Performance

Table 7. Effect of Planning Flexibility Alone

Model 4	Standardized Beta Coefficients	t	Significance
(Constant)		12,460	,000
Planning Flexibility	,122	2,450	,015
	R ²	,012	
	F	6,002	,015

a Dependent Variable: Firm Performance

Based on the above mentioned findings about the relations among study variables, we can develop a final model. Findings show that, the direct effect of environmental scanning on firm performance (H1) and the moderating role of market dynamism in this relationship (H3) are supported. However the direct effect of planning flexibility on firm performance (H2) and the moderating role of market dynamism in this relationship (H4) are not supported. Furthermore, the results of the mediation analyses, it is also found that environmental scanning plays a mediator role in the overshadowed correlation between planning flexibility and firm performance. Thus the resulting model emerges as depicted on Figure 2.

4 DISCUSSION AND CONCLUSION

4.1 Summary of the Findings

The main aim of this study was to show the associations between the levels of environmental scanning and planning flexibility together with the moderator role of market dynamism on firms', especially SMEs' overall performance. In order to uncover the complex path of these relationships better adapt to the market environment and perform well; a large scale survey has been conducted with 400 SME executives in Turkey.

In order to provide answers and plausible explanations for this study's research questions mentioned above, we have developed and tested four related hypotheses parallel with the previous literature. The measures which were adopted from previous international studies and applied to a Turkish sample proved to be valid and reliable according to the findings of factor analyses and Cronbach's alpha scores.

Our first hypothesis "H1: The level of environmental scanning in SMEs will be positively related to their firm performance", is accepted; this is a finding which is parallel with the previous literature. For instance, Daft et al. (1988) in their studies have already showed that organizations that scan their environment effectively can have an information advantage over those that do not, and become better aligned with the external conditions. Moreover the studies of Hambrick (1981), Choo (1999), Saxby et al. (2002) Albright (2004), and Nastanski (2004) show consistent similarities with our findings.

Our second accepted hypothesis is the assertion that "H3: The performance impact of environmental scanning in SMEs is moderated by market dynamism". Dess and Beard (1984) describe dynamism as the rate and the unpredictability of change in a firm's external environment and is particularly important because of its influence on relationships between a variety of firm-level constructs and firm performance. Accordingly, we can infer that the interaction between the dynamism of the market and the firm's ability to grasp information and intelligence pertaining

to this marketplace changes and developments better than the competitors will automatically produce better competitive outcomes. In other words, efforts of environmental scanning can turn the challenges of market dynamism to precious market opportunities, for instance as in the case of discovering latent or newly emerged customer needs.

Surprisingly, our two hypotheses especially related to planning flexibility; “H2: The level of planning flexibility in SMEs will be positively related to their overall performance” and “H4: The performance impact of planning flexibility in SMEs is moderated by market dynamism” are rejected. On the one hand, our correlation results show that planning flexibility does indeed have a significant impact on the firms’ performance; a finding which is parallel with the previous studies (e.g. Rhyne, 1986; Miller and Cardinal, 1994; Brews and Hunt, 1999; Andersen, 2000; Delmar and Shane, 2003). However, on the other hand, our regression analyses indicate that the correlation between planning flexibility and firm performance disappears when regressed together with environmental scanning. In other words, this finding led us to think of an overshadowing mediator role of environmental scanning in the correlation between planning flexibility and firm performance.

Before dealing with this mediation, we need to try to provide some plausible explanations for the rejection of H4 (the moderator role of market dynamism in the planning flexibility and firm performance relation). The studies of Ansoff (1979); Lorange (1980); Grinyer et al. (1986); Chakravarthy (1987); Hax and Majluf (1990) have already showed that organizations with flexible structures and processes are awarded by the notion of environmental uncertainty -or market dynamism- by means of showing better adaptation to external conditions. However, in our case of small firms in a developing nation, the combination of challenges coming from dynamism (rapid external changes) and planning flexibility (rapid internal changes) may lead in some firms with a strong strategic intelligence, direction and leadership to better performance, but in some other firms to a chaos and failure as well. In other words, efforts of continuously revising (whether corrective or damaging) the strategic plans to the challenges provided by the rapid changes of the dynamic marketplace, do not guarantee a better performance, perhaps because of the lack of scanning of the

marketplace and accumulation of necessary market knowledge leading to not only reactive but also proactive and possibly corrective actions in the firm's strategies and tactics.

As for the examination of a possible mediator role of environmental scanning in the correlation between planning flexibility and firm performance, we conducted two more regression analyses and confirm a new path of relations which were not asserted by formal hypotheses. The resulting model of the relations among study variables show us that especially in the dynamic markets, firms that try to revise and adapt their plans to this dynamism and outperform the rivals should collect in depth market intelligence to turn challenges to opportunities.

4.2 Managerial Implications

According to the results of this study, we observe that environmental scanning is crucial for the organizations' success, especially for the SMEs.

Market Dynamism: Our study indicates that market dynamism plays an important role in firms' performance by providing challenges that may function as hurdles or opportunities. Such as changes in customer needs, complexity, divergence and incomprehensibility, different and complex internal and external factors play a major role in the competition.

Environmental Scanning: With this study managers can observe how micro and macro factors influence the firms' performance. By successfully grasping of new developments in the task and general environments firms may survive through and even benefit from the challenges of the rapidly changing markets. Especially customer and competitor orientations are very critical for the generation of market intelligence and new product and/or venture ideas.

Planning Flexibility: With this study, managers can understand that planning flexibility alone is not sufficient enough to increase the firms overall performance in dynamic markets. Decisions to revise the plans should be supplemented by fresh and

accurate market intelligence; and accordingly new or renewed business ideas and plans can flourish.

4.3 Limitations and Further Research Implications

Above implications suggest several directions for future research if our study limitations are overcome. For instance our research is a local one limited by a Turkish sample. This brings the importance of cultural effects into the consideration. So the results may be biased according to the Turkish small business culture and environment.

Another limitation may be related to the types and number of study variables. In the present study, due to the existence of numerous potential predictors of firm performance -besides flexibility and scanning- our regression models' ability of predicting the trend (R^2 values) proved to be significant but still weak. In order to increase the prediction ability, new predictors should be added. Future researchers may incorporate other variables as leadership and strategic orientations or other aspects of environmental uncertainty (such as complexity, turbulence, etc.) and firm performance (such as objective accounting measures, innovation, speed, quality, etc.). Moreover, in order to provide more reliable causality links among variables longitudinal surveys may be conducted.

4.4 Conclusion

This paper trying to investigate the direct effects of environmental scanning and planning flexibility on firm performance in SMEs and also the moderating effects of market dynamism on both relations, provide some interesting findings and implications. Flexibility itself is not producing better performance especially when dynamism is high, but scanning is. While the combination of dynamism and scanning has the potential to turn challenges into opportunities, the combination of dynamism and flexibility is not so much fruitful. Beyond this discussion, another point is that, if supplemented with scanning, flexibility turns to be impacting on performance. Therefore, environmental scanning moderated by the market dynamism

is the missing link with on the long and difficult route from planning flexibility to firm performance.

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6 APPENDIX

Questionnaire Form-Measurement Items

Market Dynamism (coefficient alpha=79,79)

- a) *Changes in customer needs*
- b) *Complexity, divergence and incomprehensibility of customer needs**
- c) *Constant changes in competitor's strategies/actions*
- d) *Complexity, divergence and incomprehensibility of competitor behaviors**
- e) *Rate at which products/services become obsolete*
- f) *Different and complex product combinations**

Source: Appiah-Adu and Singh (1998), Pelham and Wilson (1996) and self-developed.

Environmental Scanning (coefficient alpha=83,88)

- a) *Threats and opportunities**
- b) *Economic trends*
- c) *Technological trends*
- d) *Demographic trends*
- e) *Customer needs and preferences*
- f) *Competitor strategies*
- g) *Supplier strategies*
- h) *Distributor strategies**

Source: Barringer and Bluedorn (1999) and self-developed.

Planning Flexibility (coefficient alpha=80,59)

- a) *The emergence of a new technology*
- b) *Shifts in economic conditions*
- c) *The market entry of a new competitor*
- d) *Changes in governmental regulations*
- e) *Shifts in customer needs and preferences*
- f) *Modifications in supplier strategies*
- g) *The emergence of an unexpected opportunity*
- h) *The emergence of an unexpected threat*
- i) *Political developments that effect your industry*

Source: Barringer and Bluedorn (1999).

Firm Performance (coefficient alpha=88,77)

- a) *Total volume of sales**
- b) *Market share*
- c) *Return on sales (ROS)**
- d) *Return on assets (ROA)**
- e) *Earning profits*

Source: Homburg et al. (1999) and self-developed.

* Self-developed items