A STRATEGIC ENTREPRENEURSHIP MODEL BASED ON CORPORATE GOVERNANCE IN THE IRANIAN MANUFACTURING ENTERPRISES

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ABSTRACT

Recently much attention has been paid to the relationship between organizational entrepreneurship and corporate governance and their effects on firm performance. This study was carried out by survey and analysis of secondary data to investigate the relationships between strategic entrepreneurship, corporate governance and firm performance among the listed Iranian manufacturing firms. Some 80 companies from various industries were studied. To analyze data, Partial Least Squares (PLS) method of Structural Equation Modeling (SEM) was used. Findings indicate that the presence of executives in the board, the amount of ownership by the board members and also compensating board members according to long-term firm performance have a positive effect on strategic entrepreneurship intensity. However a negative result was found for the amount of stocks held by institutional investors. ANOVA test results also indicated that small businesses are more entrepreneurial than medium businesses and younger businesses and businesses having more technological opportunities show more entrepreneurial intensity. Moreover, three moderating variables namely company age, company size and company past performance have strong impact on the relationship between corporate governance and strategic entrepreneurship.

JEL Classifications: L26, G34, O30, C30

Keywords: Entrepreneurship, Agency theory, Executive compensation, Innovation, Structural Equation Modeling (SEM)
1. INTRODUCTION

The purpose of this study is to examine the relationship between strategic entrepreneurship (SE), corporate governance (CG) and performance. The research seeks to investigate under what structure of CG, SE can be created or strengthened in manufacturing firms and how they (SE and CG) affect performance.

Concepts of entrepreneurship and CG through several decades of academic studies have been centered. As noted by Morris et al. “in virtually every nation, every industry, and every market, entrepreneurs are challenging existing assumptions and creating value in novel ways” (Morris, Kuratko, and Covin, 2008, 3). It means, all countries seek more value and wealth, but competition is too much and complex. So, the normal or traditional ways of business cannot be more useful and entrepreneurship can help to enhance company performance. In the changing and turbulent world of today, the main challenge for companies and institutions is to sustain progress and “the answer to today’s hyper-competitive environments is adaptability, flexibility, speed, aggressiveness and innovativeness, which they boil down to one word — entrepreneurship” (Christensen, 2004, 302).

The world today is undergoing intense competition. To survive in this tough competition, companies and businesses need to gain competitive advantage, and they can achieve this goal with entrepreneurship. Therefore, they need a model of entrepreneurship that can guide the company and place it on the path to entrepreneurship. Entrepreneurship can be manifested in two forms of individual and corporate. Corporate entrepreneurship (CE), also in a general classification can be manifested either through corporate venturing or SE (Morris et al., 2008). In times of stock market decline (such as financial crisis), investment in external start-ups will decline (Morris et al., 2008). That is, in the context of economic crises, as is the case with many countries, investing in new businesses is perhaps not attractive to companies and investors. For this reason, it is better to pursue a kind of entrepreneurship that does not need to invest in a new business.

SE is done within the company and can be a good way for enabling companies in terms of wealth growth, creating competitive advantage and developing activities. So, the study of SE and its development can play an effective role in developing economic activities and, as a result, foster development of countries. SE involves all levels of an organization engaging in entrepreneurial
activities and a good CG system can be useful in creating and strengthening SE. Therefore, attention to the effects and relationship of CG structure with SE and also the association between SE and CG with business performance is important and requires review.

The purpose of this study was to find the relationship model of CG, SE and corporate performance (CP) to create and augment entrepreneurship in firms based on theoretical studies in the literature and past research and explanation based on data collected to test it. For this purpose, data collected from the selected sample, using Partial Least Squares (PLS) method of Structural Equation Modeling (SEM) by SmartPLS software have been analyzed, the initial conceptual model was fitted and the final model of study is shown.

Subsequently, literature has been reviewed and hypotheses and the conceptual model of the study have been extracted. The methodology of the study is described and in the following, the analysis of data and findings are presented.

2. LITERATURE REVIEW

This study investigates the relationships between SE, CG and CP. In this section, literature on entrepreneurship, CE, SE, CG and CP are reviewed and hypotheses are developed.

2.1 ENTREPRENEURSHIP

Entrepreneurship is a word heard everywhere today. It seems that in many cases, users do not exactly understand the concept and history of entrepreneurship. The following is an overview of entrepreneurship literature that expresses the concept precisely.

The concept of entrepreneurship to the current term is used over 250 years in the west and to be implicitly implied on a person's efforts to transform the vision into a successful business. Entrepreneurship as concept suggests a process that can occur in various organizations as well. Study of entrepreneurship at the level of companies and organizations has been considered by many researchers and results from studies show that companies, institutions and organizations can also be entrepreneurs. Despite disagreement among researchers about the concept and definition of entrepreneurship, study on entrepreneurship is important because of its significant consequences and benefits.

Among the consequences of entrepreneurship, wealth creation (Quadrini, 1999; Hitt et al., 2001; Shane, 1996; Adham et
al., 2012), employment (Shane, 1996; Riverin et al., 2003; Veenker et al., 2008), economic dynamism (Quadrini, 1999), economic growth and development (UN Conference on Trade and Development, 2004; Riverin et al., 2003; Maes and Sels, 2004; Storey, 2004; Cope, Jack, and Rose, 2007), competitiveness (Storey, 2004; Gabrielsson, 2007), as a way to renew and revitalize companies and enhance their long-term competitive position (Cope et al., 2007; Gabrielsson, 2007) can be outlined.

The word entrepreneur was used in the early sixteenth century in French. It also was used for military leaders. But, Richard Cantillon (1755), for the first time in the mid-eighteenth century used it in relation to economic activity. As cited by Aidis “Cantillon defines an entrepreneur as a speculator in an uncertain environment” (Aidis, 2003, 3).

“During the 1940s and 1950s business historians pioneered the study of entrepreneurship. The interdisciplinary Center for Research on Entrepreneurial History, based at Harvard Business School which included Joseph Schumpeter and Alfred Chandler, and its journal (Explorations in Entrepreneurial History) were key institutional drivers of the research agenda” (Jones and Wadhwani, 2006, 2). Various researchers, including those from psychology, sociology, economics and management, studied entrepreneurship and provided a wide variety of definitions (Fozia, Rehman and Farooq, 2016). Stevenson and Jarillo (1990) divided entrepreneurship studies mainstream into three categories: 1) What happens when entrepreneurs act? This view is consistent with the views of economists. 2) Why do they act? This view matches with the viewpoint of researchers in psychology and sociology. 3) How do they act? This view is consistent with the viewpoint of management researchers.

From the economist point of view, “entrepreneurship entails bearing the risk of buying at certain prices and selling at uncertain prices” (Stevenson and Jarillo, 1990, 18: quoting Cantillon), innovating through the creation of new combinations of resources, concepts, information and so forth (Schumpeter, 1993), pursuing opportunities for sales to higher price than what can be purchased (Kirzner, 1978), “shifting economic resources out of an area of lower into an area of higher productivity and greater yield” (Drucker, 2007, 19: quoting Jean Baptiste Say) and having specialized in making judgmental decisions (Mohanty, 2010, and Philipsen, 1998: quoting Mark Casson). Psychologists and sociologists believe that entrepreneurs are individuals high in need for achievement and
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moderate (not high) risk takers (McClelland, 1961) who are a product of particular social conditions of their upbringing (Mohanty, 2010, quoting Max Weber).

According to management experts, entrepreneurship is to create value by combining a unique collection of resources for using an opportunity (Ruskin, Seymour, and Webster, 2016; Stevenson and Jarillo, 1986); using innovation to pursue continuous change, responding to it and using it as opportunity. Innovation is the means by which entrepreneurs exploit changes as an opportunity for creating different (new) business or service (Drucker, 2007; Weerawardena and Coote, 2001). Numerous studies have been examined such as Zahra (1986), Morris and Sexton (1996), Covin and Slevin (1989) and Kuratko (2007) and have been cited by many researchers to suggest that innovativeness, risk-taking and proactiveness are important indicators of entrepreneurship. Accordingly, this study summarized the definitions and opinions of experts in entrepreneurship; its related indicators can be categorized in Table 1.

TABLE 1
Classification of Extracted Indicators from the Former Authors’ Definitions

| Risk-taking (Cantillon, McClelland) | Risk-taking |
| Making judgmental decisions (Mark Casson) | |
| Pursuing continuous change (Peter F. Drucker) | |
| Innovation (Joseph Schumpeter, Stevenson & Jarillo, Peter F. Drucker, Weerawardena & Coote) | Innovativeness |
| Creation of new value or value not existing before (Stevenson & Jarillo) | |
| Accumulating resources in a unique way (Stevenson & Jarillo) | |
| Pursuing opportunities (Kirzner, Stevenson & Jarillo, GEM, Peter F. Drucker, Mohanty) | Proactiveness |
| Increasing productivity (Jean Baptiste Say) | |
| Using social opportunities (Max Weber) | |

As mentioned, innovativeness, risk-taking and proactiveness are important indicators of entrepreneurship. Table 1 shows the former authors’ definitions related to entrepreneurship that can be linked to entrepreneurship indicators. For example, judgmental decisions possess risk, creation of new value or value not existing
before is related to innovation, pursuing opportunities require need to act proactively and so on.

In this section, on review of the history of entrepreneurship and a brief overview of its characteristics and outcomes, it can be concluded that the most important indicators of entrepreneurship are innovativeness, risk-taking and proactiveness.

2.2 CORPORATE ENTREPRENEURSHIP

As mentioned before, entrepreneurship can be manifested in two forms of individual and corporate. One of the main variables of this research is SE. SE is a form of CE. So, CE literature will be reviewed in this section.

Theoretical foundations of CE were introduced in 1990 by Stevenson and Jarillo and the research level was enhanced from the level of entrepreneur (person) to the corporate level. Some experts separated the two concepts of entrepreneurship and CE from each other. In their opinion, entrepreneurship is a business venture created and operated by individuals (independent entrepreneur) and CE is entrepreneurial conduct within the organization. Within the last 30 years and especially over the past two decades, the concept of CE developed and has been used under various titles such as CE, internal CE, intrapreneurship, entrepreneurial management and SE (Christensen, 2004). Although expressed in different titles, the concept of CE is associated with different meanings, it is clear that the concept is often used to replace each other (Hornsby, Kuratko, and Zahra, 2002).

The main features of corporate entrepreneurship can be seen in the writings of various researchers. By examining the definitions advanced by these researchers, the core indicators of CE can be extracted, including, “CE may be formal or informal activities aimed at creating new business in established companies through product and process innovations and market developments” (Kuratko, 2007, 6), “deals with those factors that influence the process of creating new businesses within organizations in order to develop the organization and to enhance an organization’s competitive position or the strategic renewal for existing business” (Collin and Smith, 2003, 2) and is an organization-wide phenomenon focused on innovativeness, risk-taking and proactiveness (Zahra and George, 2002). “An entrepreneurial firm is one that engages in product/ market innovation, undertakes somewhat risky ventures, and is first
to come up with proactive innovations, beating competitors to the punch” (Jogaratnam, Tes, and Olsen, 1999, 341).

By combining and summarizing the proposed definitions of CE it can be concluded that the most important indicators of CE are innovativeness, risk-taking and proactiveness.

2.2.1 RELATIONSHIP BETWEEN ENTREPRENEURSHIP AND STRATEGIC MANAGEMENT

Strategic management and entrepreneurship both have focused on the process of adapting to environmental changes and exploiting opportunities. One way to deal with the pressures of global competition and dynamic environment is using entrepreneurial strategies. Entrepreneurial strategies are related with CP based on research results and their goal is to identify opportunities and develop them in order to create competitive advantage. “This is where the fields of entrepreneurship and strategic management intersect” (Kraus and Kauranen, 2009, 38).

Entrepreneurship and strategic management have multiple points of participation. The most important common points of both disciplines are to gain competitive advantage, growth and wealth creation. For this reason, these two disciplines can be combined. Several researchers have suggested that these two disciplines combine concepts. The strategic management field is a very promising area and can be combined in entrepreneurship researches. The combination of these approaches is a fundamental factor for doing more researches in entrepreneurship (Zahra and Dess, 2001). The Academy of Management’s Business Policy and Strategic division founded by Karl Vesper in 1974 suggested that entrepreneurship can be considered as a subset of strategic management. But, researchers’ attempt to combine these two concepts suggest they are independent fields (Kraus and Kauranen, 2009). “Entrepreneurship and strategic management are concerned with growth and wealth creation” (Dogan, 2015; Foss and Lyngsie, 2011; Hitt et al., 2011; Ireland, Hitt, and Sirmon, 2003).

While strategic management reviews the company’s efforts to create sustainable competitive advantage as a determinant of their ability to create wealth, entrepreneurship focuses on newness and novelty (Ireland et al., 2003). According to Shane and Venkataraman (2000), the basis of wealth creation through entrepreneurship is by exploring and exploiting beneficial opportunities.
Strategic entrepreneurship results from the integration of entrepreneurship and strategic management knowledge that involves taking entrepreneurial actions with strategic perspectives (Ireland et al., 2003; Monsen and Boss, 2009; Philipsen and Kemp, 2003) and focuses on areas of study related with both fields, including innovation, top management teams, governance and so forth. Also, as noted by Kuratko and Audretsch (2009, 3) “the degree to which the firm acts entrepreneurially in terms of innovativeness, risk-taking, and proactivity is related to dimensions of strategic management”.

As noted before, SE arises from entrepreneurship and strategic management. Figure 1 shows areas of study related with these two fields that are the result of strategic and entrepreneurial actions leading to wealth creation.

FIGURE 1
Integration of Entrepreneurial and Strategic Actions

Source: Kuratko, 2009, 369

From the study of the relationship between strategic management and entrepreneurship, it was concluded that SE came from a mixture of entrepreneurial and strategic actions. Common areas studied by these two disciplines that lead to wealth creation are innovation, organizational learning, CG, growth and so on.
2.3 STRATEGIC ENTREPRENEURSHIP

Corporate entrepreneurship is manifested in two forms of corporate venturing and strategic entrepreneurship (Figure 2). While corporate venturing entails company involvement in creating new businesses, SE corresponds to a broader array of entrepreneurial initiatives that do not necessarily involve adding new businesses to the firm. “All forms of SE involve organizationally consequential innovations that are adopted in the pursuit of competitive advantage” (Morris et al., 2008, 88).

![Different Forms of Corporate Entrepreneurship](image)

Source: Morris et al., 2008, 81

Strategic entrepreneurship requires simultaneous opportunity seeking and advantage-seeking behaviors followed by entrepreneurial behavior through the strategic approach and can be manifested as one of the strategic renewal, sustained regeneration, domain redefinition, organizational rejuvenation and business model reconstruction forms. Review of various forms of SE, and examples of SE successfully implemented in various companies, suggests that the most important indicators of SE are innovativeness, risk-taking and proactiveness.

In brief, CE can be done in two forms (Corporate venturing and SE). SE does not involve adding new business to the firm; that is, no need for new investment. So, SE can be appropriate in economic crisis situations. Like other types of entrepreneurship, the most important indicators of SE are innovativeness, risk-taking and proactiveness.
2.4 CORPORATE GOVERNANCE

Review of the definition, characteristics and various forms of SE suggests that SE occurs within the organization at all levels; the operational and middle levels especially have involved in entrepreneurial activities. Since SE requires a strategic approach to entrepreneurial activities, CG issues can affect it. Therefore, a system of good CG can be imperative and useful in creating and strengthening SE. CG is a broad concept and is reviewed from the perspective of five different theoretical frameworks, including Agency theory, Transaction cost theory, Stakeholder theory, Organization theory and Stewardship theory. One of the definitions of CG proposed by Cadbury (1992) and used in many studies, suggests that CG is a system by which companies are directed and controlled (Clark, 2007).

Agency theory focuses on agency conflicts between shareholders and the company managers and the causes and results of conflicts and effectiveness of various governance practices designed to reduce these conflicts. For this reason, strategic management researchers use this theory to examine issues such as innovation, CG and diversity. Internal governance mechanisms such as board composition, ownership structure and executive compensation, including issues are discussed in agency theory (Hoskisson et al., 1999). Review of the studies by Davis, Schoorman and Donaldson (1997) and Caers et al. (2006) and other discussions on stewardship theory leads to the conclusion that stewardship theory is a special case of agency theory. In fact, stewardship theory is the secondary model (dual) of agency theory because agency theory tries to minimize potential costs to the company. But, stewardship theory looks to maximize company potential performance.

Barriers and limitations hamper CE in large companies (Ahmadpour Daryani, 2008). The most important of these barriers include: Limiting structures of entrepreneurial activities, loose personal relations between managers and employees due to increasing levels of management, increased bureaucracy, conservatism, avoidance of mistakes and failures, the need for short-term profits and efforts to achieve it, general expectation that CE has to make the company profitable in the short term, low number of actual entrepreneurs, failure to encourage entrepreneurs and wrong systems and methods of reward allocation.

Review of these barriers and constraints and the relationship between them and CG issues, forms part of the research main
question. The main question of the research is: What structure of CG can help to create or strengthen SE in the Iranian manufacturing enterprises? Review also shows that the agency theory is a good vision for studying CE. Furthermore, research results from Audretsch, Lehmann and Plummer (2009) that specifically focused on the relationship between the agent properties (including board members) and SE, shows that the agency theory point of view can be used for the SE research domain. Therefore, this study uses the perspective of agency theory as the main approach to study the issue and there is also a glimpse into the stewardship theory (Chief Executive Officer (CEO) duality).

It is also essential to note that different approaches to business formation and the accompanying CG structures and regulations have evolved in different social and economic contexts. Some of the more important contextual and industrial variables influencing the business form and system of CG are national, regional and cultural differences; ownership structure and dispersion; and firm size and structure (Clark, 2007). Therefore, similar research may result in different findings in different countries.

Despite the agency theory perspective on the separation of Chairman and CEO, some tendencies exist toward CEO duality and among large American companies there are CEOs who are also the board chair and this tendency has increased the rate of return on equity of companies. In short, companies where the chairman and CEO is the same person improved in ROE more than those where the Chairman and CEO are different people (Donaldson and Davis, 1991). According to the previous discussion, it seems that being the CEO and the chairman too enables one to use that power to influence board members to protect and promote entrepreneurship and consequently encourage better business performance. Therefore, the first research hypothesis (H1) is proposed as follows:

H1: SE intensity is lower in businesses in which the chairman and CEO are different.

Non-executive board members, by law, only participate in board meetings. According to initial studies, sometimes these people do not attend these meetings and they just signed minutes sent for them and often are not aware enough of the situation in the industry and even companies. Therefore, it appears that because executives have greater awareness of industry and company conditions and requirements, increasing the number of executives in the board is
effective in reinforcing SE and consequently enhances business performance. For this reason, the second hypothesis (H2) is proposed as follows:

H2: SE intensity has a direct relationship with the number of executive board members.

Managers’ ownership is one of the CG issues, particularly under the agency theory. Under Article no. 114 of Iran’s trade law, managers must own a number of shares to put at the disposal of the company as collateral; this acts as a guarantee of losses that maybe due to their failures. According to initial studies, most managers (often representatives of institutional investors) have very little or no shares of stock. Therefore, it seems the company’s situation is not so important for managers who do not have a significant number of shares. On the other hand, the employee ownership plan is one of the mechanisms to foster entrepreneurship and can make the company more attractive to employees and help motivate and retain them (UN Conference on Trade and Development, 2004). The results of entrepreneurship in the medium term and long term are shown, and the benefits of stock ownership are also known. It seems that board member stock ownership can provide the motivation needed to pursue entrepreneurial activities. So, the third hypothesis (H3) is proposed as follows:

H3: SE intensity has a direct relationship with amount of private ownership of board members.

Another proposed restriction in the way of CE is that companies (especially large companies) need to achieve short-term gain and make efforts to achieve it. Today, due to the increase in institutional investing, CG systems in large companies are changed and are concentrated in the hands of a small number of institutional investors (Solomon and Solomon, 2004; UN Conference on Trade and Development, 2003). In companies controlled by institutional investors and companies where managers’ compensation is linked to corporate profits, it is possible that managers pay attention to personal interests and short-term profits instead of considering the long-term interests of shareholders (Solomon and Solomon, 2004). The basic premise is that institutional investors have a myopic view that will reduce R&D efforts. Entrepreneurship needs R&D while R&D needs long-term investment. However, several studies have
shown different results; some studies prove this assumption and others have rejected it (Kells and Rogers, 1997). It seems industries and various economic and political conditions and legal status can have different effects on this issue. Therefore, it seems entrepreneurial intensity of the firm will be reduced with high level of institutional equity investors. Consequently, the fourth hypothesis (H4) is proposed as follows:

H4: SE intensity is inversely related to the amount of institutional investors’ shares.

The other expected restriction in the way of CE is wrong reward systems and practices in large companies. Considering the time horizon of the entrepreneurship results and attention to the board members’ compensation as a strong stimulus for their behaviors and decisions, it seems if the board member compensation is calculated based on long-term performance this can enhance entrepreneurship intensity. According to the provisions of articles 109, 134, 239 and 241 of Iran’s trade law on duration of board member tenure, how to determine the amount of their compensation and results of initial studies, many board members of listed enterprises are constantly changing and sometimes were either changed before two years (before termination of their tenure) by the owners of capital (mainly institutional investors) or they resigned themselves to gain short-term profits in other companies. Also, considering that the board of directors proposes the cash dividend and the same amount is approved by general assembly in most cases, it seems board members will be more willing to not consider voluntary reserves or consider a small amount and propose more money to divide especially when more of them are non-executive. Consequently, nothing is left for entrepreneurship that would entail significant spending.

Finally, because of short duration of board member tenure and change in shareholder combination which reduces board members’ job security level, and dependence of board compensation on short-term company performance, managers pay less attention to the medium and long term programs. Thus, entrepreneurship intensity can be reduced. So, the fifth hypothesis (H5) is proposed as follows:

H5: SE intensity has a direct relationship with the time horizon associated with the board compensation system.
Studies have proven that a significant relationship exists between entrepreneurial intensity and organizational performance (Morris et al., 2008). Also, several researchers have pointed to the relationship between CG and CP.

Indeed growth and wealth creation are entrepreneurship’s defining objectives and SE is a unique, distinctive construct through which firms are able to create wealth (Ireland et al., 2003). Shareholder wealth increases by receiving cash profit and increasing stock price (Neveu, 1989) and, undoubtedly, cash dividends to shareholders and rising stock prices in the market largely depend on CP. Although the main subject of the study is the SE-CG relationship, assuming the impact of CG on SE we should somehow be able to see this impact on CP. At this point, another part of the research question is to be formed. How is the Impact of SE and CG on CP? Therefore, the CP can be considered as a dependent variable that can be influenced by entrepreneurship. For this reason, the sixth hypothesis (H6) is proposed as follows:

H6: SE intensity has a direct relationship with business performance.

According to Clark (2007), company size and structure are among the factors affecting CG structure. According to Zahra, Neubaum and Huse (2000), firm size impacts on investment and innovation. Ahmadpour Daryani (2008) also explained problems that large companies face in implementing entrepreneurship. Therefore, the seventh hypothesis (H7) is proposed as follows:

H7: SE intensity is inversely related to firm size.

It seems that companies that have better performance in the past will possibly spend more resources for investment and entrepreneurship. For this reason, the eighth hypothesis (H8) is proposed as follows:

H8: SE intensity has a direct relationship with past performance of business.

According to Zahra et al. (2000), younger firms are more innovative. Initial studies and examination of the views of experts and managers of the companies surveyed also suggests such a situation. Therefore, it is assumed that:
H9: SE intensity is inversely related to company age.

Also, according to Zahra et al. (2000), companies experiencing greater technological opportunities in their industry are more innovative than companies having fewer opportunities. So, the tenth hypothesis (H10) is proposed as follows.

H10: SE intensity has a direct relationship with the technological opportunities available in the industry.

2.5 CORPORATE PERFORMANCE

Different views about the performance in studies and performance evaluation have created debate among strategic management scholars. CP can be classified into two general categories of financial and non-financial performance. In other words, performance criteria can be divided into two groups: retrospective and prospective criteria.

Several scholars who have researched entrepreneurship and CG or have been published in journals of entrepreneurship and CG, have used different criteria, such as return on assets (ROA), return on equity (ROE), profit to sales ratio, earnings growth, or employment growth to measure CP. These criteria have been used to measure performance of the companies studied in this research because of their applications and features.

3. RELATIONSHIP BETWEEN STRATEGIC ENTREPRENEURSHIP, CORPORATE GOVERNANCE AND CORPORATE PERFORMANCE AND FORMATION OF THE CONCEPTUAL MODEL

A series of studies have reported a positive relationship between entrepreneurial orientation and both financial and non-financial measures of CP (Morris et al., 2007). Also, it is observed that the active pursuit of entrepreneurial behavior by an organization can make its performance surpass its competitors. Implicitly, the ability to anticipate and meet ongoing customer needs before competitors is based on identifying opportunities, proactive behavior and innovativeness. Innovation is tied directly to value creation for customers, which, in turn, can produce competitive advantage and higher levels of organizational financial performance (Morris et al.,
Innovativeness, risk-taking and proactiveness have also been known as core indicators of entrepreneurship.

Table 2 shows a summary of previously investigated relationships. Despite controversy about the relationship of the board and the performance in the past researches, the mainstream approach has been to argue for a direct relationship between board demography (such as board size and presence of non-executives) and company performance (Gabrielsson, 2007). Good CG also has a significant relationship with company financial performance (Solomon and Solomon, 2004). In sum, the previous discussions and studies have investigated separately and limited the relationship between entrepreneurship and CG, CG and performance and entrepreneurship with performance; it seems there is an integrated relationship between SE, CG and CP. This study investigates this integrated model.

**TABLE 2**

Some Studies on Relationships between Entrepreneurship, Performance and Corporate Governance

<table>
<thead>
<tr>
<th>Relationship between</th>
<th>Researchers</th>
</tr>
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<tbody>
<tr>
<td>Entrepreneurship and corporate governance</td>
<td>Hung (2005); Bitler, Moskowitz and Vissing-Jorgensen (2005); Christensen (2004); Otuteye and Sharma (2004); Ireland et al. (2003); Williamson (2002); Morris et al. (2007); Zahra et al. (2000); Conant (1992)</td>
</tr>
<tr>
<td>Corporate governance and corporate performance</td>
<td>Shabbir and Padgett (2008); Caers et al. (2006); Neubaum and Zahra (2006); Bitler et al. (2005); Storey (2004); Solomon and Solomon (2004); Wong, Opper and Hu (2004); Jawahar and McLaughlin (2001); Collin and Smith (2003); Chui, Lau and Ip (2001); Deckop, Merriman and Gupta (2006) Earnhart and Lizal (1999); Jones (1995)</td>
</tr>
<tr>
<td>Entrepreneurship and corporate performance</td>
<td>Morris et al. (2008); Wiklundand Shepherd (2005); Morris and Sexton (1996); Davis, Morris and Allen (1991); Covin and Slevin (1989); Zahra (1986); Miller and Friesen (1982)</td>
</tr>
</tbody>
</table>

As stated, the subject of this study is to examine the relationship between SE, CG and CP. Previous studies have examined the relationships between one of these variables with the other one and they did not examine any relationship between the three variables simultaneously.
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FIGURE 3
Conceptual Model

According to previous discussions, it can be considered that an integral relationship exists between SE, CG and CP. The indicators of each of the variables were extracted based on previous studies. The measurements of each indicator were also obtained in the same way. Then, based on the research questions, the hypotheses were formed. So, the conceptual model was designed according to them and shown in Figure 3.
It is assumed that CG affects SE, and CG and SE both affect the CP. There are also a number of moderating variables that moderate the relationship between CG and SE.

4. METHODOLOGY

The method (strategy) of this study is survey and analysis of secondary data. In terms of type, it is developmental and has used qualitative and quantitative data to explore and describe the subject.

This study examined the business level; that is, companies that have one business, not holding companies having several businesses. In the holdings, calculating the impact of CG on SE, as well as calculating the impact of these two on CP, is not possible because of the presentation of consolidated financial statements and the impossibility of separating the effects of management decisions.

For this study, the statistical population encompassed companies listed in the Tehran Stock Exchange. There were 329 listed companies in total. The statistical population was screened, because 1) this study has focused on manufacturing businesses (the production of goods), 2) Holdings, the group companies and companies reporting consolidated financial statements, have more than a business were excluded due to lack of access to detailed data about each business and because this study focused on the business level, 3) need to review past performance of business that require the presence of companies in the stock exchange not less than five years. Thus, the statistical population was reduced to 158 companies. Then, for most similarities of population and samples, the stratified sampling was used. Listed companies in the Tehran Stock Exchange are classified by ISIC codes. Some 112 companies were selected as sample based on Krejcie and Morgan’s table.

Parts of the data were obtained using two questionnaires. Other data were collected by reviewing financial statements. The study used a standardized and proven questionnaire examined by Morris et al. (2008) and the method used by Zahra et al. (2000). The questionnaires were reviewed and modified by a number of professors and scholars and were localized according to country and industry conditions. Likert scale was used in one of the questionnaires. Some 31 initial questionnaires were gathered and Cronbach’s alpha was calculated to measure the questionnaire validity. Cronbach’s alpha value for the first five questions related to technological opportunities was 0.844, and for the next 15 questions
relevant to entrepreneurial intensity it was 0.77, showing appropriate questionnaire validity.

Companies in the sample numbered 112 in total. Only 82 companies responded to the questionnaire. Two questionnaires were rejected for incomplete information. Also, about 5,000 data items were extracted from financial statements to calculate the value of some variables related to the company performance and business risk.

5. DATA ANALYSIS AND FINDINGS

This study used PLS method of SEM for data analysis. It is very appropriate when the sample size is small or moderate or significant variables are not normally distributed (Chin, Marcolin, and Newsted, 2003; Esteves, Casanovas, and Pastor, 2003; Haenlein and Kaplan, 2004; Tobias, 1995). SmartPLS software version 2.0.M3 was used to data and factor analysis. *t*-Test was used to test the first hypothesis (H1); partial correlation coefficient test was used for H2 to H6, while the method proposed by Hensler and Fassott (2010) was used to measure the effects of moderating variables in hypotheses 7–10.

Testing of the H1 suggests that there is no significant difference between the two groups of companies where the CEO is chairman and where the CEO is not the Chairman (*t*-Value = -0.047, Sig = 0.962 > 0.05). Indeed, this hypothesis could not be tested, because the number of companies where the CEO is also chairman was low. The results of testing the H2 to H6 are summarized in Table 3.

TABLE 3
Summary of Test Results for the Second to the Sixth Hypothesis

<table>
<thead>
<tr>
<th>Hypothesis No.</th>
<th>Correlation</th>
<th><em>t</em>-Value</th>
<th>Significant level %</th>
<th>Test result</th>
</tr>
</thead>
<tbody>
<tr>
<td>H2</td>
<td>0.223</td>
<td>3.416</td>
<td>5</td>
<td>confirmation</td>
</tr>
<tr>
<td>H3</td>
<td>0.314</td>
<td>3.833</td>
<td>5</td>
<td>confirmation</td>
</tr>
<tr>
<td>H4</td>
<td>-0.240</td>
<td>2.803</td>
<td>5</td>
<td>confirmation</td>
</tr>
<tr>
<td>H5</td>
<td>0.433</td>
<td>3.093</td>
<td>1</td>
<td>confirmation</td>
</tr>
<tr>
<td>H6</td>
<td>0.741</td>
<td>5.438</td>
<td>0.1</td>
<td>confirmation</td>
</tr>
</tbody>
</table>

Effect of moderating variables on the relationship between decision variables showed a weak effect of technological opportunities (H10) and the strong influence of other moderating
variables (Size, Past performance and Age of company) on the relationships (H7, H8, H9). Results are summarized in Table 4.

### TABLE 4
The Effect of Moderating Variables

<table>
<thead>
<tr>
<th>Hypo. No.</th>
<th>Variable</th>
<th>$f^2$</th>
<th>Effect intensity</th>
<th>$\beta$</th>
<th>Test result</th>
</tr>
</thead>
<tbody>
<tr>
<td>H7</td>
<td>Company size</td>
<td>1.22</td>
<td>strong</td>
<td>-0.24</td>
<td>confirmation</td>
</tr>
<tr>
<td>H8</td>
<td>Past performance</td>
<td>1.24</td>
<td>strong</td>
<td>0.59</td>
<td>confirmation</td>
</tr>
<tr>
<td>H9</td>
<td>Company age</td>
<td>0.46</td>
<td>strong</td>
<td>-0.45</td>
<td>confirmation</td>
</tr>
<tr>
<td>H10</td>
<td>Technological opportunity</td>
<td>0.02</td>
<td>weak</td>
<td>0.75</td>
<td>confirmation *</td>
</tr>
</tbody>
</table>

*Hypothesis is confirmed in terms of relationship. But according to the method used to measure the intensity of the variable effect, this relationship is weak and negligible.

Final model of research after fitting is shown in Figure 4.

### FIGURE 4
Final Model of Research (SmartPLS Output)

Further using the Hensler and Fassott (2010) approach for the H7 test, size of business was calculated using the natural logarithm of total assets and businesses were classified into three groups (small, medium and large). ANOVA was performed to test
mean differences. The results suggest existence of difference of variance between different groups (90% confidence level). Given that $R^2$ value of the different groups (as shown in Table 5) related to SE is also indicative of this difference. It is important to note that the larger the size of business, the lower the $R^2$ value ($R^2$ level for medium businesses is less than for small businesses). That is, the hypothesis is confirmed. But, again companies with a bigger size have also increased the value of $R^2$. This is a cause for reflection and further investigation is needed in further researches.

### TABLE 5
Value of $R^2$ for Different Groups of Surveyed Businesses in Terms of Size

<table>
<thead>
<tr>
<th>Company size</th>
<th>Strategic entrepreneurship</th>
</tr>
</thead>
<tbody>
<tr>
<td>Small</td>
<td>0.988</td>
</tr>
<tr>
<td>Medium</td>
<td>0.769</td>
</tr>
<tr>
<td>Large</td>
<td>0.990</td>
</tr>
</tbody>
</table>

Also, using the Hensler and Fassott (2010) approach for the H8 test, the businesses surveyed were divided into two groups (with the past performance of less than 0.1 and the past performance of more than 0.1). ANOVA was performed to test mean differences. The results suggest there is a difference of variance between the two groups (95% confidence level). The $R^2$ value of the two groups studied (respectively 0.233 and 0.362) also suggests that the difference would confirm this hypothesis.

### TABLE 6
Value of $R^2$ for Different Groups of Surveyed Businesses in Terms of Age

<table>
<thead>
<tr>
<th>Age range</th>
<th>Strategic entrepreneurship</th>
</tr>
</thead>
<tbody>
<tr>
<td>1–20 years old</td>
<td>0.972</td>
</tr>
<tr>
<td>21–40 years old</td>
<td>0.642</td>
</tr>
<tr>
<td>41–60 years old</td>
<td>0.596</td>
</tr>
</tbody>
</table>

For the H9, using the Hensler and Fassott (2010) approach, surveyed businesses were classified into four groups. ANOVA was performed to test mean differences. The results suggest there is a difference of variance between different age groups (95% confidence
level). The $R^2$ value of SE in different age groups (as shown in Table 6) also suggest this difference and the hypothesis is confirmed. It is worth mentioning that the fourth group (firms 61 to 80 years old), involved only two companies and due to data limitations, the $R^2$ values were not measured.

**TABLE 7**
Value of $R^2$ for Different Groups of Surveyed Businesses in Terms of Technological Opportunities

<table>
<thead>
<tr>
<th>Number of opportunities</th>
<th>Strategic entrepreneurship</th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
<td>0.908</td>
</tr>
<tr>
<td>Average</td>
<td>0.719</td>
</tr>
<tr>
<td>Low</td>
<td>0.557</td>
</tr>
</tbody>
</table>

Further using the Hensler and Fassott (2010) approach for the H10, technological opportunities of businesses based on the calculated score, businesses were classified into three groups (with the technological opportunities of low, medium and large). ANOVA was performed to test mean differences and results suggest there is a difference of variance between different groups (90% confidence level). The $R^2$ value of SE in different groups (as shown in Table 7) also suggest this difference and the hypothesis is confirmed.

Correlations between variables are shown in Table 8. Also, $R^2$ value for the variable of SE is 0.802, and 0.365 for business performance.

**TABLE 8**
Correlation Coefficients Between Variables

<table>
<thead>
<tr>
<th>Concept</th>
<th>CG</th>
<th>SE</th>
<th>CP</th>
<th>CS</th>
<th>PP</th>
<th>CA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corporate Governance (CG)</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Strategic Entrepreneurship</td>
<td>0.695**</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Corporate Performance (CP)</td>
<td>0.065</td>
<td>0.477**</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Company Size (CS)</td>
<td></td>
<td>-0.614**</td>
<td>-0.780***</td>
<td>-0.221*</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Past Performance (PP)</td>
<td></td>
<td>0.229*</td>
<td>0.529**</td>
<td>-0.002</td>
<td>-0.704***</td>
<td>1</td>
</tr>
<tr>
<td>Corporate Age (CA)</td>
<td></td>
<td>0.535**</td>
<td>0.610**</td>
<td>0.109</td>
<td>-0.555**</td>
<td>0.471**</td>
</tr>
</tbody>
</table>

*p< .05, **p< .01, ***p< .001
After analyzing the data and checking the factor loads, factors that had factor loadings below the desired level were eliminated. The effect of moderating variables was also studied and the variable with a weak effect was deleted. Finally, the conceptual model of Figure 3 is fitted and the final model is shown in Figure 5.

**FIGURE 5**
Final Model
6. CONCLUSION

This paper studied the relationship between Strategic Entrepreneurship, Corporate Governance and Corporate Performance. Test of the H1 was not possible because of the low number of companies where the CEO was also chairman of the board. Other research hypotheses were all confirmed. Hypothesis test results showed that with more executives in the board, higher ownership by the board members, compensating board members according to the firm long-term performance and less amount of stocks held by institutional investors will increase SE intensity. Also, there was a significant direct relationship between SE intensity and corporate performance. Relationship between SE and performance was stronger than the relationship between CG and performance. This shows that although CG impacts on performance, SE has a more direct impact than CG on performance. Considering the effects of moderating variables indicated that three moderating variables of age, size and past performance of business have a strong effect on the relationship between CG and SE. Effect of technological opportunities was poor; it is an important matter and deserves further research. Moderating effects of variables on the structural equation model suggests that company size has a reverse effect on the CG-SE relationship.

ANOVA test results also indicated that small businesses are more entrepreneurial than medium businesses. While the entrepreneurial intensity of medium businesses is less than for small businesses, entrepreneurial intensity increases again with enlarging of the firm size. It is a noteworthy subject and can be examined in future researches. Also, businesses that had better past performance were more entrepreneurial than businesses with weaker past performance. In addition, ANOVA test results showed younger businesses and businesses that have more technological opportunities have more entrepreneurial intensity. However, the effect of moderating variable (technological opportunities) in the fitted model was very limited. The following paragraphs present some practical suggestions for government and stock market officials; owners of capital and top managers and suggestions for further study.

In this section we present some practical suggestions for users of the research.

Since companies operate under trade law, it is suggested that government amend the trade law to lengthen the management term of board members and link board member compensation to long-term
performance. Officials should adopt policies to increase the number of executive directors on the board. Another suggestion is to increase the board member motivation for entrepreneurial actions. So, it is suggested that officials pass laws and institute procedures to increase board members’ personal ownership. Since institutional investors are more likely to favor short term profits, it is suggested to ratify laws and procedures to reduce their ownership in order to maintain more financial resources to support entrepreneurial activities. To determine the extent of entrepreneurship in firms and encourage investors to invest in them, it is suggested that government officials revise accounting and auditing standards and procedures. It is suggested to revise financial reporting standards to report on the corporate entrepreneurship situation. To encourage entrepreneurship and investment in entrepreneurial companies, it is suggested that stock market officials set up a portfolio of entrepreneurial companies in the stock market and establish a system for corporate entrepreneurship monitoring and control. Government must establish appropriate incentives such as tax exemptions for companies in such portfolio.

Given the executive directors are more aware about the firm’s industry, it is suggested to select more executive directors as board members. To increase board member incentive to pay more attention to company activities, it is suggested to invite board members to buy stocks of the company or increase their shareholdings through lending or paying directors’ compensation in company shares. Another suggestion is to increase research and development budgets to improve firm innovativeness. Since company growth rate influences entrepreneurship intensity, it is suggested to be precise in decision making to raise capital and grow company size. Top managers must apply appropriate strategies for organizational rejuvenation to prevent organizational decline, and hire creative and entrepreneurial people.

This study has been carried out under certain conditions. Therefore, to get more extensive results and increase the ability of generalizing the findings, it is suggested that future researchers test the model of this study using the variables of other corporate governance theories. For example the stewardship theory is suggested. It is also suggested to test the model of this study in private small and medium size firms, financial and service providers and to test the model with other moderating variables.
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