

THE RELATIONSHIP BETWEEN DIVERSIFICATION STRATEGY AND FIRM PERFORMANCE IN DEVELOPED AND EMERGING ECONOMY CONTEXTS: EVIDENCE FROM TURKEY, ITALY AND NETHERLANDS

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ABSTRACT

The aim of this study is to determine whether there is a difference between types of diversification and performance comparing Turkey, Italy and Netherlands. There are studies with the conclusion that the indicators of the relationship between diversification strategies and firm performance of developed countries differ from the indicators of developing countries. The data of 166 firms in Netherlands, 265 firms in Italy and 128 firms in Turkey were analyzed. The data of 2007-2011 was used in the research. Return on Assets (ROA) and Return on Sales (ROS) for financial performance and Entropy Index for diversification were used. According to the results, there is no correlation between total entropy and a performance criterion ROA and ROS in Italy and Netherlands. On the other hand, in Turkey, it is understood that there is a low-level positive correlation between total entropy and firm performance.

Keywords: *Diversification Strategy, Entropy Index, Organizational and Financial Performance.*

1. INTRODUCTION

Diversification strategy can be defined as "Expanding or entering in new markets which are different from the firm's existing product lines or markets" (Jhonson and Scholes, 2002; Rumelt, 1982a). Diversification is subdivided into two groups. *Related Diversification* is market expansion into new areas within the sector that comprises. *Unrelated diversification* refers to the strategy where a business enters in a new market having no relation with the existing one (Jhonson and Scholes, 1999).

In the emerged countries, a total of 82 prior researches were subjected to content analysis in a research carried out in 2000 (Palich, Cardinal and Miller, 2000). It is argued in the earlier literature that the relationship between diversification strategy and organizational performance is an inverted U-shaped curve. As a result, while performance and diversification will increase at the same time until the degree of diversification increases up to an optimum level, a decrease in the performance level will begin. This relationship is positively influenced by the market sharing, joint and more efficient use of available resources and capacities, use of a similar product and process technology, production facilities, management capabilities, business programs and such factors (Nayyar, 1992; Palich, Cardinal and Miller 2000; Markides, 1994, 1995).

The fact of diversification strategy and organizational performance has been studied by Chang (2007), Khanna and Palepu (1997, 2000a, 2000b, 2005), Lins and Servaes (2002), Shyu and Chen (2009), and many other researchers. As a result of the recent strategy research in emerging country environments (Chang and Hong, 2002; Hoskisson, Eden, Lau and Wright, 2000; Khanna and Palepu, 1997; Wan and Hoskisson, 2003) how country differences have an effect on the antecedents and results of firm diversification began to be questioned (Chakrabarti, Singh and Mahmood, 2007). Khanna and Palepu argues that different from the developed countries, the enterprises adopted diversification strategies can get benefit from corporate environment factors like gaps in the developing country markets, business government relations, production markets and labour markets (Khanna and Palepu, 1997, 2000a, 2000b, 2005).

This study aims to compare the results of analysis made using Entropy Index measures of the relationship between diversification strategy and firm performance in Turkey, Italy and Netherlands. Thus, the first part includes a literature review about this relationship. Finally, the 2007-2011 data of the firms in Turkey, Italy and Netherlands were used to test the hypotheses.

2. LITERATURE

Resources, Skills of a Firm as an Internal Capital Market in Emerged Countries

The resource-based view (RBV) of the firm and the concept of core competencies that is less formal and more management-oriented derivative has become the most important research subject in strategic management (Zajac, Kraatz and Bresser, 2000). Contrary to the '(industry) structure-conduct-performance paradigm' of industrial organization economics (Porter, 1991), the competitive advantage of firms are explained mainly by their internal capabilities and resources, i.e. factors that exist essentially in heterogeneous firms (Duschek, 2004).

There are lots of arguments about how and why diversification can provide higher profits. Mostly they are connected to the firm's RBV (Schilling and Steensma, 2002). Specifically, a firm is considered to have a stack of resources, which can become unproportional in relation to the present level of production (Argyres, 1996). In other words, some resources are usually available more than needed (Hislop, 1997). Penrose expresses that a business has an internal encouragement to diversify to take advantage of the excess resource when met with an amount of a particular resource that is more than expected, such as marketing (Li and Greenwood, 2004).

As resources have a naturally medium level position in the chain of causality, the relation of resources with activities is even more important. Overtime activities and acquisition from outside or both in a way can make resources arisen. Previous managerial choices are shown by both. Internal skills and routines increasing over a period of time as well as external assets

are brought about by performing an activity or a number of interdependent activities in course of time. For instance, reputation of a business is a function of its marketing background and customer service activities meanwhile. Internal and external assets lose their value, yet, except if they are livened up by continuing activities. The degree of losing value looks to be very different across different types of assets, and can be quick. Then, businesses increase the number of resources as a result of differing strategies and configuration of activities. Resources and activities can be identified as duals of each other (Porter, 1991).

Underlying the physical base of relatedness is a concept of firms or industries as collections of material resources and physical processes. Raw materials, physical processes, plant and equipment, manuals and blueprints, and computer hardware and software, among others are the parts of these collections (Farjoun, 1998; Liu and Liu, 2011). Advantageous physical resources can be defined as the resources like the production area and technical equipment which are for common use in diversified businesses. Industries need to be related or similar to each other to use these resources commonly (Chatterjee and Wernerfelt, 1991). In diversification the effect of physical resources based performance is seen in two ways. First, it can be essential to identify the possible relationship between strategic business units and make the usefulness of the resource better and grater to be used by all the strategic units. Second, especially throughout the production process, the present products complementing each other can be shared. Thus, cost savings for strategic business units can be supplied by using physical resources collectively (Farjoun, 1998).

According to RBV, one of the basic advantages of diversification strategy is organizational slack which is explained as the organizational sources existing in businesses but not used and probably beneficial if used. There can be kinds of organizational slack like financial slack. The portfolio manager of a diversified business can manage the financial resource which is needed by one of the strategic business units and not used by the other units evenly. Otherwise, organizations can't make this resource useful (Harrison and John, 1994).

Businesses or industries are considered as sets of interrelated bodies of human knowledge which join during providing goods and services by the human skill base concept. The differences between physical and skill resources and activities have clear and exact effects on firm diversification. Human skills aren't identified easily. Individuals cannot show their knowledge clearly, and the new domains to which their knowledge can be applied as desired are uncertain. Moreover, learning ability, improving services, transference of knowledge and combining resources in more efficient ways are the features distinguishing individuals from physical resources. Unlikely, physical resources can be observed and identified more easily than skills (Farjoun, 1998). This can be the reason of focusing the search for diversification outlets firstly on applications for physical artifacts. As physical resources are more product-specific than other resources in general, the range of industries to which they can be applied is more limited (Chatterjee and Wernerfelt, 1991).

This theory predicts that managers can behave selfish when they are not watched closely. In this case, the board of directors or shareholders will want to inspect the managers for their own interests, but, the managers will not accept this control with the delegation of power. The top executives and shareholders will have difficulties in controlling these units because of the increase in number of business units owing to diversification strategy. These are a brief summary of the reasons for this power attorney based problem: Each managers and shareholders will desire to increase their own interests. Actually, the problem will exist at this point. For example, the business can be presented more useful by the manager responsible

to shareholders; short-term benefits can be preferred to the strategic benefits and to obtain his individual interest the manager can behave immorally. The researches state that the ownership structure affect diversification strategy, but performance problems exist in diversified companies with delegation problem (Lane, Cannella and Lubatkin, 1998; Denis, Denis and Sarin 1999).

Corporate environmental factors as an external capital market in emerging countries

The findings of recent studies in developed countries such as US, Germany, Britain and Japan show that firm value isn't increased by diversification strategies after the optimal level. Conversely, costs of diversification strategies begin to rise, become more than benefits after the optimal level. Also, performance level is influenced by the probable benefits and costs caused by diversification and also other criteria in emerging markets (Lins and Servaes, 2002). Dealing with resource allocation can have more efficient results in internal capital markets than external capital markets so diversified businesses with this reasoning have an advantage because they can create large internal capital markets. Internal capital markets should turn into attraction because of inefficiencies in the external capital market as in many emerging economies (Stein, 1997; Williamson, 1981). The most ideal firm structure will be contingent on the institutional context. Strong and well developed institutions with efficient product, labour and capital markets are seen in most developed economies. Therefore, the market structure would be a more efficient mechanism for transactions. From this perspective, higher costs connected with diversified firm structure exist and therefore conglomerates are thought to be insufficient performers in strong and mature market. Underdeveloped institutions and weak capital, labour and product markets are the main qualities of emerging markets. According to transaction costs theory diversified group structure is ideal for emerging economies. Interestingly there are comprehensive researches about the diversification literature mainly attributing the value gain/loss arguments to transaction costs rationale and the institutional gaps argument in the finance and strategic literature in both emerging and developed market context (Williamson, 1981). India is classified as one of the most important emerging markets. Imperfection and underdevelopment of the capital market structure and the labour, capital and product markets are assumed in emerging markets. According to transaction cost theory, internal capital markets would be an effective choice when such conditions occur. Hence, business will have motives for diversification. Also, diversified firms may perform better than focused firms in imperfect markets. Therefore, the higher performance of diversified business groups is regarded as likely in Indian business environment. Due to the predicted positive effects of diversifying as a strategy, it follows that the market would value firms having a dominant diversified structure more. In India the group structure executes diversification strategy typically though a number of focused business entities also emulate the group structure (Khanna and Palepu, 1997). Industrial groups are often seen in emerging markets. Therefore, firm value can be affected by group affiliation positively (Khanna and Palepu 1998, 2000; Lins and Servaes, 2002). The potential agency costs associated with diversification gets increased by the severe market imperfections in developing economies. Management and large shareholders can easily derive benefit from the firm for their own goals through higher asymmetric information. Concentrated ownership, particularly by management group, can both provide advantages and cause harm to diversified firms. Under the convergence-of-interest hypothesis, diversifying is the behavior of firms in imperfect market. Heterogeneity in firm resources, environmental opportunities, and managerial motivations are the other reasons for diversifying (Hoskisson and Hitt, 1990).

3. METHODOLOGY

Aim and universe of the study

The aim of this research is to determine whether there is a significant difference between types of diversification and performance values comparing Turkey, Italy and Netherlands. The research aimed to identify the effect of institutional diversification on organizational performance was carried out on the firms in Turkey, Italy and Netherlands, so the data of the firms operating in Turkey were obtained from www.imkb.gov.tr and www.kap.gov.tr and the data of firms operating in Netherlands and Italy were obtained from Bloomberg data base. The data of 166 firms in Netherlands, 265 firms in Italy and 128 firms in Turkey were analyzed. The data of 2007-2011 were used in the research.

Variables and measurement methods of the research

The independent variable of the research is measure of diversification and dependent variable is organizational performance.

Diversification measure

Entropy Index: To measure diversification, Entropy approach as a continuous count method is used. Managerially meaningful elements of total diversification (unrelated and related diversification are separated by this measure (Jacquemin and Berry, 1979).

The entropy measure of total diversification can be shown as follows:

$$DT = \sum_{i=1}^N P_i \ln (1/ P_i) \quad (1)$$

Where: P_i = Proportion of firm activity (sales) in SIC code “i”, for a corporation with “N” different 4-digit SIC businesses.

Related Entropy: Interestingly entropy measure recognizes a third dimension of diversity which means the degree of relatedness among the different segments in which a firm operates. In order to understand this, an industry group can be defined as a set of related segments. It is probable that the segments across groups are less related to each other than the segments with in an industry group. Let the N industry segments of the firm aggregate into M industry groups, ($N \geq M$).

DR_j can be defined as the related diversification emerging out of operating in many segments within an industry group. Based on the definition of the entropy measure, DR_j can be formulated as:

$$DR_j = \sum_{i \in j}^M P_i^j \ln (1 / P_i^j) \quad (2)$$

Where P_i^j stands for the share of the segment i for group and j in the total sales of the group. As our firm operates in many industry groups, its total related diversification DR is a function of DR_j , $J=1, \dots, M$. We can design it as:

$$DR = \sum_j^M DR_j P^j \quad (3)$$

Where P^j represents the share of the Jth group sales in the total sales of the firm. Be careful that DR refers to the weighted average of the related diversification within all the M groups. Each group gets a weighted average equal to its share, a measure of its importance in the total operations of the firm.

Unrelated Entropy: The related component of the entropy index can be obtained from dividing total entropy into its related and unrelated parts (Robins and Wiersema, 2003). Unrelated entropy (DU) is calculated similarly using 2-digit SIC data:

$$DU = \sum_{j=1}^M P^j \ln (1 / P^j) \quad (4)$$

$$DT = DR + DU \quad (5)$$

Where: P^j = Proportion of business activity (sales) in SIC code “j”, for a corporation with “M” different 2-digit SIC businesses.

In this study, the SIC classification codes are used to define the industry segments and groups. SIC industries at the two-digit level are treated as the industry groups. SIC industries at the four-digit level are treated as the industry segments.

Organizational Performance: Analysis to measure organizational performance, financial measures utilized and reasons for using these measures are summarized below.

Researches in which Performance is measured by ROA (Return on Assets): ROA is accepted as an important indicator to measure the effectiveness of management by the researchers that measure organizational and financial performance by ROA only. In addition, external shareholders and firm managers who need the performance of the business organization express that ROA is a sufficient criterion to evaluate the performance of organization (Tihanyi, 2003; Dubofsky, 1987; Kim and others, 2004; Ravichandran, 2009; Hill and others, 1992). On the other hand, according to Rumelt, Christensen and Montgomery ROA is a standardized measure of performance (Dubofsky, 1987).

Researches in which Performance is measured by ROS (Return on Sales): The reason that researchers use the ROS only or with other financial measures for organizational performance is that the ROS is calculated after deducting taxes and other expenses. The ROS is accepted as an important factor in measuring the efficiency of operational activities (Palepu, 1985; Markides and Williamson, 1994; Markides, 1995; Markides, 1996).

The hypotheses of the study

Turkey as an emerging country and Italy and Netherlands as developed countries were studied in this research. As stated in literature, emerged countries diversify focusing on resources and skills and these factors increase performance. However, environmental opportunities are more dominant and they increase performance because of the reasons such as imperfect competition conditions and government-employer relations in emerging countries. In general terms, internal factors in developed countries are dominant and the performance of related diversification is expected to be high. On the other hand, external factors increase performance in emerging countries and the performance of unrelated diversification is expected to be high. According to this information, the hypotheses of the study are as below:

- H₁:** While a positive relationship exists between performance and related entropy index based diversification in Italy and Netherlands, there is not such a relationship in Turkey.
- H₂:** While a positive relationship exists between performance and unrelated entropy index based diversification in Turkey, there is not such a relationship in Italy and Netherlands.
- H₃:** While a positive relationship exists between performance and total entropy index based diversification in Turkey, there is not such a relationship in Italy and Netherlands.

4. RESULTS

Diversification measure based analysis is used in the research to see the performance-diversification relation of the firms in Turkey, Italy and Netherlands. In order to decide on which statistical test will be used in analyzing, normal distribution analysis (one sample KS; and histograms) was applied. As the results were normal, parametric analysis was chosen.

Related entropy degree, performance criteria

In order to understand the relationship between organizational performance and related entropy, correlation analysis was applied. Table 1 demonstrates that there is no correlation between related entropy and a performance criterion ROA and ROS in Italy, Turkey and Netherlands. Accordingly, there is not a relationship between related diversification and an organizational performance criterion ROA and ROS.

Table 1. Related Entropy Index, ROA and ROS Correlation (Pearson) Analysis

| Related Entropy Index / Performance | | TURKEY | | | ITALY | | | NETHERLANDS | | |
|-------------------------------------|---------------|-----------------|-------|-------|-----------------|-------|------|-----------------|------|------|
| | | Related Entropy | ROA | ROS | Related Entropy | ROA | ROS | Related Entropy | ROA | ROS |
| Related Entropy | Pearson | 1 | -.001 | -.125 | 1 | -.072 | .107 | 1 | .014 | .024 |
| | Sig(2-tailed) | . | .996 | .481 | . | .581 | .411 | . | .930 | .876 |
| N | | 34 | 34 | 34 | 61 | 61 | 61 | 44 | 44 | 44 |

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

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

Unrelated entropy degree, performance criteria

Table 2 demonstrates that there is no correlation between unrelated entropy and a performance criterion ROA and ROS in Italy and Netherlands. Also, while there is not a correlation between ROA and total unrelated entropy, it is understood that there is a low-level positive correlation ($p=0,05$) between unrelated entropy and ROS in Turkey.

Table 2. Unrelated Entropy Index, ROA and ROS Correlation (Pearson) Analysis

| Unrelated Entropy Index / Performance | | TURKEY | | | ITALY | | | NETHERLANDS | | |
|---------------------------------------|------|-------------------|------|---------|-------------------|------|-------|-------------------|-------|-------|
| | | Unrelated Entropy | ROA | ROS | Unrelated Entropy | ROA | ROS | Unrelated Entropy | ROA | ROS |
| U. Entropy | P.C. | 1 | .306 | .368(*) | 1 | .036 | -.126 | 1 | -.045 | -.033 |
| | Sig | . | .078 | .032 | . | .784 | .334 | . | .770 | .833 |
| N | | 34 | 34 | 34 | 61 | 61 | 61 | 44 | 44 | 44 |

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

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

After identifying correlation relationship, regression analysis will be applied to identify the effect of unrelated diversification degree on performance in Turkey. Table 3 demonstrates the linear regression analysis results intended for understanding how ROS, a performance criterion, is explained by unrelated diversification strategy.

Table 3. Diversification Degree ROS Regression Analysis Results in Turkey

| Model | R | R Square | Adjusted R Square | F |
|--------------------------|----------|-------------|-------------------|------------|
| | .368(a) | .135 | .108 | 5.002 |
| | B | Beta | T | Sig |
| (Constant) | 0.068 | | 2.325 | .027 |
| Unrelated Entropy | .134 | .368 | 2.236 | .032 |

Dependent Variable: ROS - Independent Variable: Unrelated Entropy

So the research model between ROS, the dependent variable and unrelated diversification, the independent variable was designed as: It is understood that $ROS = 0,068 + 0,134 * \text{Unrelated Diversification}$. According to the research model, % 13.5 of the performance value is explained by unrelated diversification.

Total entropy degree, performance criteria

Table 4 demonstrates that there is no correlation between total entropy and a performance criterion ROA and ROS in Italy and Netherlands. On the other hand, in Turkey, it is understood that there is a low-level positive correlation ($p=0.05$) between total entropy and ROS, ROA.

Table 4. Total Entropy Index, ROA and ROS Correlation (Pearson) Analysis

| Total Entropy Index / Performance | | TURKEY | | | ITALY | | | NETHERLANDS | | |
|--------------------------------------|---------------|---------------|---------|---------|---------------|-------|-------|---------------|-------|-------|
| | | Total Entropy | ROA | ROS | Total Entropy | ROA | ROS | Total Entropy | ROA | ROS |
| Total | Pearson | 1 | .384(*) | .374(*) | 1 | -.010 | -.051 | 1 | -.033 | -.019 |
| Entropy | Sig(2-tailed) | . | .025 | .029 | . | .939 | .695 | . | .833 | .905 |
| N | | 34 | 34 | 34 | 61 | 61 | 61 | 44 | 44 | 44 |

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

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

After identifying correlation relationship, regression analysis will be applied to identify the effect of total diversification degree on performance in Turkey. Table 5 demonstrates the linear regression analysis results intended for understanding how ROS, a performance criterion, is explained by total diversification strategy.

Table 5. Diversification Degree ROS Regression Analysis Results in Turkey

| Model | R | R Square | Adjusted R Square | F |
|--------------------------|----------|-------------|-------------------|------------|
| | .374(a) | .140 | .113 | 5.216 |
| | B | Beta | T | Sig |
| (Constant) | 0.001 | | 0.031 | .976 |
| Unrelated Entropy | .171 | .374 | 2.284 | .029 |

Dependent Variable: ROS - Independent Variable: Total Entropy

So the research model between ROS, the dependent variable and total diversification, the independent variable was designed as: It is understood that $ROS = 0.171 * \text{total diversification}$. According to the research model, 14% of the performance value is explained by total diversification. Table 6 demonstrates the linear regression analysis results intended for understanding how ROA, a performance criterion, is explained by total diversification strategy.

Table 6. Diversification Degree ROA Regression Analysis Results in Turkey

| Model | R | R Square | Adjusted R Square | F |
|--------------------------|----------|-------------|-------------------|------------|
| | .384(a) | .148 | .121 | 5.542 |
| | B | Beta | T | Sig |
| (Constant) | 0.005 | | 0.341 | .736 |
| Unrelated Entropy | .051 | .022 | 2.354 | .025 |

Dependent Variable: ROA Independent Variable: Total Entropy

So the research model between ROA, the dependent variable and unrelated diversification, the independent variable was designed as: It is understood that $ROA = 0.051 * \text{total diversification}$. According to the research model, % 14.8 of the performance value is explained by total diversification.

5. CONCLUSION

When the results were evaluated in terms of Hypothesis 1, there was not a correlation between organizational performance and related diversification in Turkey, Italy and Netherlands for related entropy, one of the organizational performance measures. This is an expected situation for Turkey but the hypotheses were rejected for Italy and Netherlands. The last worldwide economic crisis may have affected the result because the last economic crisis affected all developed countries especially Italy, Greece and Spain negatively.

When the results were evaluated in terms of Hypothesis 2, it was seen that unrelated diversification affect performance positively in Turkey. There was not any significant relationship for Italy and Netherlands so the hypothesis was rejected. When the results were evaluated in terms of Hypothesis 3, it is understood that total diversification affects both performance indicators positively in Turkey. The findings about hypothesis 2 and hypothesis 3 support the literature.

As emphasized by the researches mentioned above concerning the developing countries, the reason for such insignificance appears to stem from conditions that are thought to be differentiated in Turkey. The relationship between diversification and performance is thought to be affected by factors such as some of the privatization policies in Turkey, working conditions, crises conditions that coincide with the period of research, absence of perfect competition conditions, markets in Turkey, some sectors in developing countries being at the end of product life cycle curve while being at point of entry in Turkey.

Within the framework of the results emerging from this study, the following recommendations are proposed to researchers and executives:

- Also, some variables such as crisis conditions, agency problems, firm growth, national income and trend rate of gross national product growth can be considered in another study.
- The same studies can be carried out using only Rumelt's diversification measure or both Rumelt's diversification measure and Entropy Index.
- In order to separate related and unrelated diversification 2-digit SIC was used in this study. Another study where 3-digit is used for this separation can be carried out.
- The same study can be carried out including more countries.

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