

The Effects of Strategic Orientations and Perceived Environment on Firm Performance

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Abstract

Among micro, small, and medium-sized firms located in Hungary, I conducted a survey examining the effects of entrepreneurial and learning orientations, and that of perceived environment on firm performance. I studied the perceptions of environmental turbulence and environmental hostility. Three dimensions were examined both in the case of entrepreneurial orientation (i.e., innovativeness, proactiveness, and risk taking) and in the case of learning orientation (i.e., commitment to learning, shared visions, and open-mindedness). The effects of such dimensions on firm performance were analyzed with the path analysis (PLS-SEM) method. In the course of the research, firm performance was divided into three dimensions: efficiency, growth, and profit. The possible effect of available financial resources was also taken into consideration. Results show that the availability of financial resources is relatively important, although it is connected only to the growth dimension of performance. Strategic orientations should be interpreted as multi-dimensional, and they have an effect on different performance dimensions. The research was cross-sectional and has implications for long-term strategic decisions.

Keywords: entrepreneurial orientation, learning orientation, firm performance, path analysis, Hungary

JEL Classification: O32, O41, O44

1. INTRODUCTION

Entrepreneurial orientation has been in the focus of entrepreneurship literature in the last 30 years (Covin-Wales, 2011). Present study contributes to these achievements by investigating the effect of entrepreneurial orientation (EO) on firm performance, considering the viewpoint of Covin and Wales (2011) both on the measurement model of EO and on learning orientation (LO). For the path analysis, a statistical method was used where normal distribution is not required, and it fits exploratory research better than the previously used techniques. Due to the regional differences in Hungary, I studied the perception of environment in a regional sample. A similar research was already done in this field together with Filser et al. (2014); however, I have changed several research aspects based on previous experience. In present research, the Covin and Slevin (1989) questionnaires and the partial least squares based structural equation modelling (PLS-SEM) are used, instead of the covariance based method (CB-SEM). The goal of the research is to create a new, more complex model, in the framework of which the effects of EO and LO dimensions and the perceived environment may be examined from more than one aspect of firm performance.

At first, the studied constructs are introduced. Then, the location and strength of the connections among them are measured with path analysis. Figure 1 overviews the constructs. The effect of available financial resources was also taken into account, due to the effect of capital



on possible innovation and business processes. Although the latter effect is trivial, it is useful to compare it with other path residuals. As we will see, money is far from being the only requirement for high firm performance.

The goal of present study is to better understand the factors of firm performance in micro, small and medium enterprises (MSMEs). The results can help the firms to optimize their strategies by setting performance goals. In the region where the study was conducted the next few years provide a significant opportunity thanks to the establishment of a new EU research center, i.e. ELI-ALPS and the science park around it, presently being under construction. This project will bring hundreds of scientists and numerous innovative firms to the region. As we will see in the results of the research, there are some negative effects on firm performance as well. However, it does not mean that companies must avoid these situations, as Christensen and van Bever (2014) point out, the positive effects of innovativeness are often delayed, and short-term thinking does not lead to growth in the long-term.

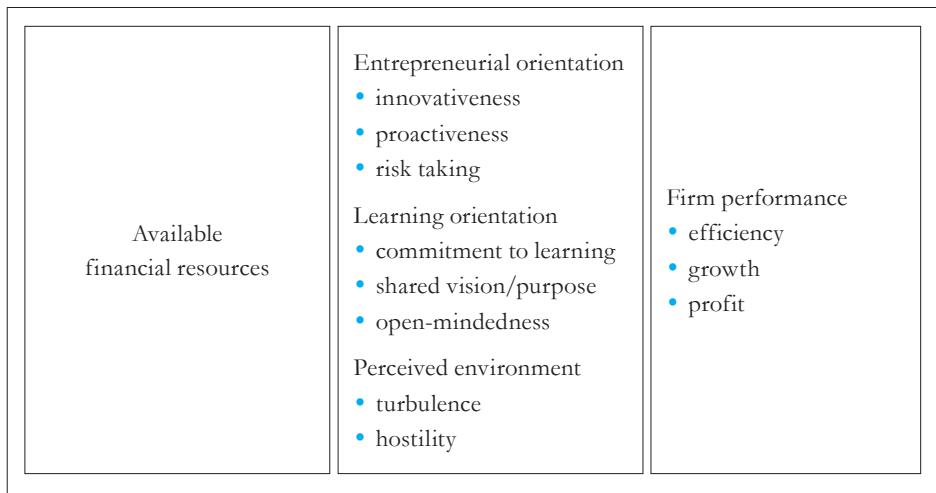


Fig. 1 – The examined dimensions. Source: own construction

2. ENTREPRENEURIAL ORIENTATION

When Miller (1983) used the EO of firms, he did not look for the creator of innovation in the firm, but he tried to describe the entrepreneurial process instead. He distinguished three dimensions of this process. These kinds of firms innovate as Schumpeter described it. With the help of continuous innovation, they want to get into a better position than their competitors do. They are willing to take risk in the hope of greater profit. They are proactive, so they are more open to innovative products and/or services than their competitors are. A firm can gain competitive advantage if it prepares for future customer needs (Lumpkin & Dess, 1996).

Covin and Slevin (1989) operationalized EO with three dimensions and the items of their survey have become widely used. Lumpkin and Dess (1996) added two new dimensions (autonomy and

competitive aggressiveness); however, present research uses the previous three-item scale. The correlations between the two new dimensions and the previous three dimensions are generally high. The adaptation of the Lumpkin and Dess model to our sample would be problematic also due to the differences in the interpretation of autonomy and aggressive competition in East-European transitional economies.

In spite of the fact that the original survey was made more than 30 years ago, Covin and Wales (2011) state that no significant change has happened in the way of research. The scales of Covin and Slevin are widely used; nonetheless, the additions and modifications suggested so far have not generally been accepted. I argue that a solely formative study of EO causes significant loss of information. In present study, instead of using only one value to describe EO, all the three dimensions are applied. The dimensions were created as reflective constructs from EO items, but later were used as formative constructs in the model without a second order, unified EO construct.

3. LEARNING ORIENTATION

In the organizational literature, learning is approached in two ways. Organizational learning focuses on the information distribution processes, as since Argyris and Schön (1978) several kinds of learning circles have appeared in different numbers and with different content. Another approach is the so-called learning organization, which focuses on particular parts of culture, like shared visions, or on mental models, as in Senge (1990). In a way or another, each organization learns, i.e. gathers information about itself and its environment. This information is not always utilized in a way that would make them a learning organization by definition. In the long-term, organizations must learn, at least as fast as their environment changes, otherwise their market share will soon decline (Sinkula, Baker & Noordewier, 1997). The ability to learn is essential not only due to the development of the actual paradigm, but it also opens the way for paradigm shifts in the organizations (Baker & Sinkula, 1999a). These paradigm shifts can be interpreted as organizational innovations. Baker and Sinkula (1999b) found that the effect of learning orientation on innovation and firm performance is greater than the effect of marketing orientation. Marketing orientation in this case focused on satisfying actual customer needs, but excluded innovative or proactive processes.

The features of a learning organization as described by Senge (1990) are not easy to operationalize on the level of self-assessment questionnaires. The above mentioned studies (Sinkula et al., 1997, Baker & Sinkula, 1999a, 1999b) highlight three dimensions which are common in several descriptive models: commitment to learning, shared vision and open-mindedness. These dimensions are also applied in present study.

In organizations committed to learning, the managers support learning on every level. The organization gathers, evaluates and reviews information continuously. This behavior is similar to the one described in the double-loop learning model (Argyl & Schön, 1978) and to the team learning function of Senge (1990). Where this kind of commitment is missing, there will be less learning (Baker & Sinkula, 1999a). The second dimension is about shared visions and the purpose of management and employees. Visions are based on experience, but in the ever-changing

environment the utility of these visions decrease. Shared vision influences the direction of learning, while the other two dimensions influence the intensity of learning. Tobin (1993) describes this as visible leadership. Without shared visions and a definite purpose, the motivation for learning is lower. Shared visions channel the learning process that makes them more effective (Baker & Sinkula, 1999a). Open-mindedness fosters relearning which involves developing new abilities and forgetting old and unusable knowledge. Open-mindedness is a proactive feature as it assumes that knowledge is not permanent and the organization needs constant development.

4. PERCEIVED ENVIRONMENT

Lawrence and Lorsch (1967) found that the different parts of organizations were influenced by different environmental effects. Present study is not an environmental fit study where scientists measure the organicity of firms (e.g. Naman & Slevin, 1993). This study does not focus on a specific industry or sector and claims that the differences in perceived environmental turbulence and hostility have significant effects on strategic decisions. Therefore, these effects are examined without measuring fit.

The environmental turbulence scale of Naman and Slevin (1993) contains the items of the environmental hostility scale of Covin and Slevin (1989). The research adopted these items into two separate reflective latent variables. Environmental turbulence represents the frequency of technological changes in the industry, and environmental hostility describes how risky, stressful and uncontrollable the market is. Environmental hostility is not an outcome of a market with many competitors, but a result of many uncontrollable variables with possible fatal consequences. For example, shops must close on Sundays in Hungary unless the shopkeeper and his family work there on Sunday. This recent change of regulations has raised inequality on the market, because some businesses can work a day more per week than others. In the hostile environment, some larger firms started to change their business model into franchise, some stay closed; however, both decisions raise risk and stress in a business.

5. REGIONAL ENVIRONMENT

According to Beugelsdijk (2007), there is an agreement according to which the role of micro level, organization specific factors is underrated in innovative performance. Scientists emphasize the regional factors despite the little quantitative evidence of the role of regions in firm performance. Beugelsdijk (2007) examined more than a thousand firms in 12 regions of Netherlands. He found that firm-specific drivers of innovation were more important than the regional environment of firms. Sternberg and Arndt (2001) came to a similar conclusion with the European Regional Innovativeness Survey (ERIS). They found that for enterprises and SMEs the effects of organizational level variables were greater than regional variables. However, they notice that the effects are not independent. The environment is not independent of the firms, but determined by local firm characteristics. Regional environment can increase the developmental potential of organizations, but it cannot achieve it by itself.

Based on the conclusions of the above studies, present research focuses on one region instead of the whole country. Hungarian regions differ to a great extent in terms of firm performance and

R&D potential (Ács, Szerb, Komlósi & Ortega-Argilés, 2014). These differences can make an impact on the perceived environment. This research focuses on one region to avoid these problems; however, its conclusions can serve as a base of a regional comparison in the future.

6. FIRM PERFORMANCE

There are many ways to measure firm performance. Balance sheets and business reports were not available in this research. There are national differences in generally used accounting indicators. In course of the research, I doubted whether the entrepreneurs could answer correctly concerning all the required data in a quantitative way without the help of an accountant. Differences in firm size can also make comparison harder. The probable low response rate about the quantitative measures of the business were predictable. Hungarian firms tend to hide exact numbers of business in questionnaires even if they are in the freely accessible balance sheet. Therefore, I looked for a method that can handle the problems listed above.

I applied the indicators used by Li, Huan and Tsai (2008) because they structured them in latent variables. I use them as formative variables of the three aspects of firm performance. Efficiency is measured by the well known return of investment indicators (ROI, ROE, ROA). Growth was measured by increase in sales, market sizes, and number of employees. The measurements of profit were translated in the Hungarian target translations in a way to fit the form firms use in Hungary, but the concept of the items stayed the same. Besides the return on sales, net and gross profit margin measure the profit dimension of firm performance.

7. METHODOLOGY

Data was gathered in May 2014 in the Southern Great Plain region of Hungary, which is a NUTS 2 region. I used paper based and online surveys in Hungarian language. Paper based answers were uploaded to online database after filling the survey. It made possible to gather answers from entrepreneurs with less computer skills. The items were part of an omnibus questionnaire, so only parts of the survey are introduced here.

EO is measured with items used by Covin and Slevin (1989) on a 7-point semantic differential scale. The negative and undesirable states were at point 1, and the positive and desirable states were at point 7. I used items from Naman and Slevin (1993) to measure environmental turbulence and hostility with a similar method. For learning orientations, I used own items based on Sinkula et. al (1997). I picked 2 items for every three dimensions and gave the contrary statement at the other end of the 7 point scale to match the form of the other items. A similar procedure was followed for items on financial resources. They are based on the scale of Atuahene-Gima, Slater and Olson (2005). The method of Gupta and Govindarajan (1984) was used, as described in Covin and Slevin (1989), to measure values of performance with the items of Li, Huan and Tsai (2008). First, the importance of indicators was asked on a 5-point Likert type scale (in which 5 indicated „extremely important“). After that, the satisfaction with the performance in the field was asked, using the same indicators (5 indicated „highly satisfied“). The importance-scores were multiplied by the satisfaction-scores to compute the weighted average for each indicator.

In the questionnaire, participants were asked to indicate if they were the managers of their organization. It was clear that participants had different views about who a manager is. I asked them about their positions in the firm to find the entrepreneurs. According to the expectations, it was hard for responders to categorize themselves. In the Hungarian law, there are several names used for executive officers without clear definitions, depending on the legal form of the firm; nonetheless, many of the responders answered that they were entrepreneurs, and did not mark themselves as executive officers. I excluded participants who referred to themselves as managers but were responsible for only a part of a company. There were SBU managers, site leaders, and accountants among them. These responses may sometimes result from the misinterpretation of the introductory text, or sometimes the executive officer hands over the task of answering to a secretary or another employee. This way I avoided the use of a clear definition of entrepreneurship and found both those who saw themselves as entrepreneurs and those who were entrepreneurs because they managed a whole company, but thought about themselves differently.

8. RESULTS

Statistical analysis was made by IBM® SPSS® Statistics 22.0, and SmartPLS 3.2.0 software. I followed the advice of Kazár (2014) on PLS path analysis. Path analysis based on partial least squares is a rapidly developing field of statistics. New methods and possibilities opened up even during the analytical work. I was committed to do analysis in a reliable way, so these innovations were taken into consideration; however, present research cannot compare the different software packages or the different versions of a software.

457 responses were registered. 400 responses were completed, out of which 60 were excluded because the respondents were not entrepreneurs. 50 of them considered themselves as other managers, 10 of them were employees or undefined. As a last step, three big enterprises were excluded since they were not MSMEs. There are no more than 100 big enterprises in the region according to expert estimate. A study focusing on them could gather reliable information in the field. After clearing the database, an analysis was conducted on a 337-item sample.

The survey focused on the Southern Great Plain region, but among the companies involved in the research, not all of them have their headquarters in the region (Tab. 1). I did not exclude these companies from the research since this situation may be explained by different legal or technical reasons. In present study, it was not possible to take a representative sample. I assumed that respondents were active in the region and were part of the regional business ecosystem.

Tab. 1 – Descriptive data of firms (N=337). Source: own construction

| Size category | N | % | Most important activity | N | % |
|---------------|-----|------|-------------------------|-----|------|
| micro | 184 | 54.6 | production | 43 | 12.8 |
| small | 119 | 35.3 | service | 179 | 59.1 |
| medium | 34 | 10.1 | trade | 115 | 34.1 |

| Legal form | N | % | Most important market | N | % |
|---------------------------|-----|------|-----------------------|-----|------|
| sole proprietorship | 108 | 32 | local | 135 | 40.1 |
| limited partnership | 40 | 11.9 | regional | 93 | 27.6 |
| limited liability company | 183 | 54.3 | national | 73 | 21.7 |
| other | 6 | 1.8 | international | 36 | 10.7 |

First, the data was checked with the Kolmogorov-Smirnov test and the Sapiro-Wilk test for normality, which showed significant difference ($p<0.05$) at all variables. This also leaves PLS as the useable type of SEM in this research. Performance dimensions entered as formative variables. Financial resources were also a formative variable. All other latent variables are reflective. I indicated only those paths on Fig. 2, where bootstrapping results were significant ($p<0.05$). Bootstrapping was done with BCa method on 5000 subsamples. Individual sign changes and a path weighting scheme were set.

A 10-7 stop criterion was reached with 11 iterations when I used the PLS algorithm. Pairwise deletion was used for missing data to preserve as much data as possible without using estimates. One indicator from every firm performance variables had to be removed. ROE is not correlating with other two efficiency items. This can be explained by the firm size and the number of owners. The growth in the number of employees was also independent from the growth in sales or market share. The net profit also differed to a great extent from EBIT. This can be connected to attitudes about the tax system, which was not in the focus of present research.

Multicollinearity did not affect our data. In the inner model, the highest variance inflation factor (VIF) is 1.505, while in the outer model it is 2.941. We can speak about weak multicollinearity above VIF=5, which is not the case in this study. Standardized Root Mean Square Residual (SRMR) would show an amount of errors in the model if it is above 0.09 (Hu & Bentler, 1999). In this case, SRMR is lower: 0.062. Levels of adjusted root squares are somewhat lower because of the different scales of latent variables (1 to 7, and 5 to 25). The R2 values (0.185, 0.432 and 0.462) are acceptable.

Reliability of variables were measured following Hair et al (2009). Cronbach's alpha values were between 0.885 and 0.676, but only one variable, proactivity was lower than 0.7. For exploratory analysis, values above 0.6 are acceptable. Composite reliability values were between 0.941 and 0.800, which is as it is expected CR>0.7. Average variance extracted (AVE) values are also above the required 0.5 level (0.889>AVE>0.568).

All but one latent variable have a role in the final model. The open-mindedness dimension of learning orientation does not have any significant path coefficients with other variables. The results show a new viewpoint as I treated dimensions of latent constructs individually.

The innovativeness and proactiveness dimension of EO has a path to efficiency but with a different sign. The innovativeness ($\beta=-0.147$) value indicates that return can be lower where innovation is more important. Referring to Christensen and van Bever (2014), the effect of innovation does not appear instantly in the performance measurers. Proactivity has a low positive

coefficient ($\beta=0.105$) with efficiency. Proactiveness requires less assets than innovation, if the firm does not do R&D. Risk taking is connected to growth ($\beta=0.104$). The effect of it is low, but it can help to make new investments to make the firm grow.

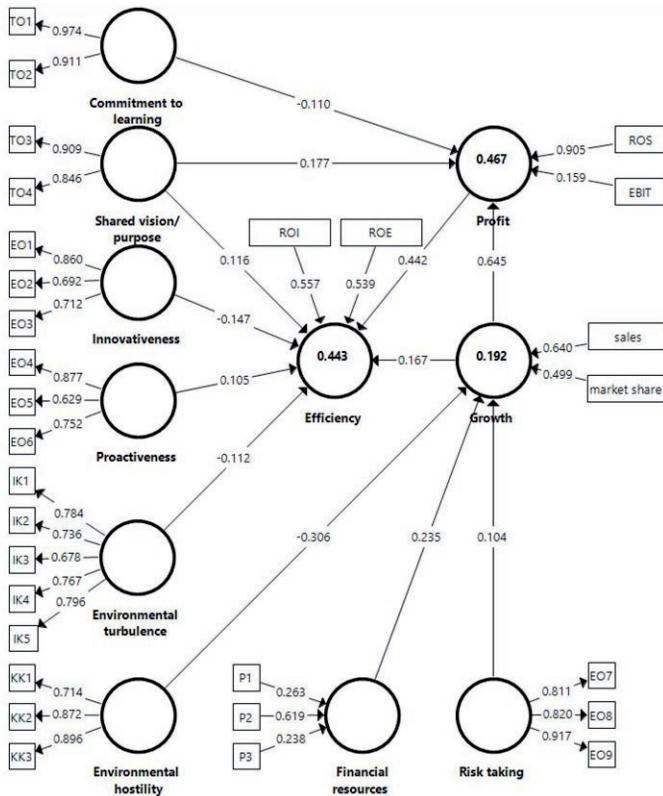


Fig. 2 – PLS-SEM results with significant ($p<0.05$) path coefficients. Source: own construction

Commitment to learning has a negative connection with profit ($\beta=-0.108$). This shows that learning is an investment that makes the profit smaller in the short-term. Shared visions has a positive connection with profit ($\beta=0.177$) and efficiency ($\beta=0.116$). Shared visions are assumed to make the transaction costs lower inside the firm. It should also be noted that in smaller firms, growth is not always part of the shared visions; however, it does not mean that they are not profit oriented. In the present model, there is no direct or indirect path from any learning orientation dimension to growth, but there can be such indirect effects which are not indicated by the model.

Turbulent environment has a negative effect on efficiency ($\beta=-0.112$). The need for new investments is probably more frequent in turbulent environments. It has no effect on growth and profit if the firms keep up with competition. Environmental hostility has a stronger negative effect ($\beta=-0.306$). It means that in a competitive environment it is harder to be successful in business. Financial resources are connected with growth ($\beta=0.235$). Firms with more resources have



more freedom in strategic decisions about new investments. The effect of financial resources is not much higher than other effects we measured, so it is assumed that the availability of financial resources is not enough to be successful.

The results of various settings and the theories reviewed are discussed and analyzed in terms of connections of firm performance dimensions. There is no goodness of fit values in PLS-SEM for the whole model. The setting which I have chosen the growth in has a smaller direct effect ($\beta=0.167$) on efficiency than indirect effect through profit ($\beta=0.285$). I assume that in the long-term the connection of performance dimensions can change in a firm or it can be circular, although these situations cannot be handled with only one survey and with this particular method. In this study, the actual significant effects were examined.

9. CONCLUSION

According to our results, in the case of the MSMEs, there are several paths between dimensions of EO, LO, perceived environment and firm performance. Regarding the ELI-ALPS project the following conclusions may be summarized for the MSMEs in the region: A science park should be a place where people can share their visions in a benign environment; and where there is enough patience to wait for the fruits of innovation. A science park can be a great place to share visions about the future. The science park has a great responsibility to create a benign environment for spin-offs and startups where trial and error is possible. Rapid changes in the industry, the development of human capital, and research and development can cost a lot and do not always result in quick growth and good financial performance in the short run.

Of course, there are also research limitations and open questions. The sample was large enough for the analysis, but was not representative for any variable. Answers of self-administered surveys sometimes describe ideal or planned behavior instead of the objective truth. Better predicting variables can be out of our sight; other constructs can change or modify the effects of the variables measured. I only presume and hope that investing in innovation and learning result in a better performing firm in the long-run; nonetheless, this cannot be proved in a cross sectional study.

In the present research, I used a new method for examining paths in a model; however, this is only the first step of a long way. It would be important to make the scale of orientations and that of performance more similar in the future. The used performance indicators should be revised in order to match them to the characteristics of smaller firms. It is also possible to measure other performance from another viewpoint than financial. Furthermore, it is important to examine the effects of strategic orientations in the long-run. The omnibus survey contained other scales I could not examine in this paper (Miles-Snow typology, family/non family business). Moreover, I think it is important to compare the results regarding this geographical region to other regions with similar or different characteristics.

PLS-SEM is getting more and more popular as a “silver bullet” (Hair, Ringle & Sarstedt, 2011) of marketing and management research, and the method of modelling is in continuous development. There are many opportunities to use the PLS method in economics when data is not normally distributed, or the sample is small. However, it is important to consider its potential

and limitations and use it when appropriate. I hope this study is a good example of how to use PLS-SEM to cast a new light on the old constructs of strategic management.

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