

Culture, Entrepreneurship and Market Orientation as Determinants of Organizational Innovation Capability: the Case of Transition Economy

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Abstract: Organizational culture, entrepreneurship and market orientation are frequently identified as important determinants of organizational innovation capability. Regression analysis based on a sample drawn from manufacturing companies in Slovenia shows that entrepreneurship and market orientation significantly positively predict organizational innovation capability while organizational culture is not significant predictor of organizational innovation capability. These findings are discussed in the relation to the practical importance of developing innovative culture as one of the most important determinants of innovative capability of organizations in transition countries.

Key-Words: Organizational innovation capability, determinants, empirical research, Slovenia

1 Introduction

The importance of innovation is established as a necessary ingredient for organizations simply wanting to remain competitive or pursue long-term advantages [1]. Given the importance of innovation, research from a variety of disciplines has looked for determinants that influence the organizational innovation capability. In this paper we focus on the determinants that have been identified in the literature as being critically linked to the innovation capability and long-term competitive success: innovation-oriented culture, entrepreneurship and market orientation.

2 Theoretical framework

2.1 Organizational culture and climate that support creativity and innovation

Organizational culture has been defined in many different ways. A simple definition shared by many researchers is that organization culture is “the way we do things around here”. It reflects the norms and deeply rooted values and beliefs that are shared by people in an organization. Organizational culture can affect levels of entrepreneurship and innovation through socialization processes that influence individual’s behaviour, and through structures, policies, and procedures that are shaped by the basic values and beliefs of the organization. [2], [3]. Organizational culture and climate should encourage

positive views towards organizational change and should increase employees’ confidence and capability to undertake new challenges.

2.2 Entrepreneurship

Entrepreneurship represents organizational behaviour. The key elements of entrepreneurship include risk taking, proactivity and innovation [4]. A successful firm not only encourages entrepreneurial managerial behaviour, but also develops culture and organizational structure to support such behaviour [3]. The entrepreneurial firm is generally distinguished in its ability to innovate, initiate change, and rapidly react to change flexibly and adroitly [5]. “Entrepreneurial intensity” of the firms depends on their innovativeness, proactiveness and risk-taking propensity in their strategic decision-making. A firm pursuing an innovation-based strategy encourages and accumulates specific capabilities, which distinguish the firm from its competitors and enable it to face the variability of the environment [6].

2.3 Market orientation

A number of company behaviours consistent with elements of the concept of market orientation are important determinants of new product success [7], [8]. Market-oriented behaviours regarding the generation, dissemination, and utilization of market information are important for developing the

capability to utilize new internal and external knowledge sources in innovation activities. Market orientation is viewed as an important knowledge-based asset that is rare, due to the difficulty and cost of obtaining it, and is potentially valuable because it offers market-based insights that are not available to other firms [9]. Market focused learning capabilities refer to superior ability to gather, disseminate and process information about customer needs and competitors and are essential to understand the market. Market orientation involves also close and effective cross-functional communication [8], [10].

2.4 Capability to innovate

Organizational innovativeness can be defined as organization's overall innovative capability of introducing new products to the market, or opening new markets, through combining strategic orientation with innovation behaviour and processes [11]. Innovation has many facets, i.e. product or process innovation, radical or incremental innovation, administrative or technological innovation, etc. Main types of innovation, which contribute to business development are product innovation, process innovation, marketing innovation and organizational innovation. Improved and radically changed products are regarded as particularly important for long-term business growth [12]. Process innovation embraces quality function deployment and business process reengineering [13]. In the case of services, which by their very nature rely on personal interactions, the management of process innovations is very important [14]. Market innovation is concerned with improving the mix of target markets and how chosen markets are best served. Its purpose is to identify better (new) potential markets and better (new) ways to serve target markets [15]. At a broader level market innovativeness refers to innovation related to market research, advertising and promotion as well as identification of new market opportunities and entry into new markets [11]. Organizational innovativeness refers to the firm's ability to manage and organize resources in a new way to achieve its ambitious objectives.

Taken together, the preceding discussion gives rise to the following hypotheses:

H1 There is a significant and positive relationship between organizational culture and organizational innovation capability. H2 There is a significant and positive relationship between entrepreneurship orientation and organizational innovation capability. H3 Market orientation is significantly and positively related to organizational innovation capability. H4 Organizational culture, entrepreneurship and market orientation are all significant predictors of organizational innovation capability.

3 Method

3.1 Sample

The database used to carry out the proposed research is made up of the information obtained from a mail survey sent in 2004/2005 to 1000 randomly selected Slovenian manufacturing companies from the IPIS Database. A total of 254 questionnaires were returned from top or marketing managers as informants that were chosen as persons with the best knowledge of the factors that might have an impact on the organizations' innovative capability and sustained competitive advantage in the period of the five most recent years. The data of 191 companies were used in this research.

3.2 Measures

A set of 38 scale items for measuring the proposed hypotheses were generated based on our literature review and on our previous research. The items were theoretically grouped into four constructs explained in detail below. Responders were asked to provide answers on a seven-point semantic differential type scale.

Organizational culture was constructed using 13 items. High scores on this scale indicate organizational culture, which is very supportive to creativity and innovation.

Entrepreneurship was presented by 8 items, mainly derived from Naman and Slevin [5]. High scores on this scale indicate that company is proactive oriented, has a high tolerance for risk and supports high-potential-reward projects.

Market orientation was constructed to measure company's orientation towards the customer, orientation towards competitors and inter-functional coordination. Generation, dissemination and use of the information about the market were measured by 10-item scale, which is the adoption of 14-item scale proposed by Day [16].

Organizational innovation capability was measured using 8 items that measured the extent of the company's innovation output in the form of innovative products, process, organizational and marketing innovations in the five most recent years. High scores on this scale indicate that company has introduced many innovations in products, processes etc. and that these innovations are radical.

4 Results and discussion

As it seemed likely that some of items presenting culture, entrepreneurship, market orientation and organizational innovation capabilities are related to each other factor analysis was performed. A principal components analysis with a varimax rotation of the

factors was used separately for four constructs explained above. We used the commonly accepted “eigen values greater than one” rule to determine the number of factors to retain in the analysis.

Thirteen items constitute the construct that measures organizational culture that supports creativity and innovation. Factor analysis extracted three factors. F1 is quite general factor including many aspects of organizational culture that support creativity and innovation as for example inter-disciplinary teams, organizational structure, formal procedures, working atmosphere, control system, autonomy etc. F2 deals with the top management concern for education that improves creativity and top management system for evaluation and reward of creativity and innovation. F3 describes how objectives and work are organized in companies.

Eight items were used to collect information about entrepreneurship orientation. Factor analysis extracted two factors. F4 is general factor including different aspects of entrepreneurship orientation of the company as for example proactivity, R&D expenditures etc. F5 deals with the companies’ policy of financing growth and with the policy of exploring new opportunities.

Ten items constitute the construct that measures market orientation. Factor analysis extracted two

factors. F6 concerns companies’ extent and frequency of collecting information about market changes, customers and competitors and the extent of sharing information about market changes among different departments. F7 deals with the percentages of innovative ideas attracted from market information and the percentage of new products developed by using information about company’s customers and competitors.

Eight items were used to measure organizational innovation capability. Factor analysis extracted only one factor F8 dealing with the extent of innovations and the level of radical changes regarding product, process, organizational and marketing innovations.

Bi-variate correlation coefficients (Table 1) of factors F1, F2, F3, F4, F5, F6, F7 and their relationship with the organizational innovation capability F8 show that all correlation coefficients have positive relationship with organizational innovation capability (0.379, 0.311, 0.033, 0.756, 0.163, 0.464, 0.356) and all are significant ($\alpha < 0.05$) with the exception of factor F3. This finding provide support for hypothesis H2 and H3, but insufficient evidence to support H1, since not all factors presenting organizational culture are significant.

Table 1 Correlation matrix

	F8	F1	F2	F3	F4	F5	F6	F7
F8	1.000							
F1	0.379 ^a	1.000						
F2	0.311 ^a	0.004	1.000					
F3	0.033	-0.003	0.002	1.000				
F4	0.756 ^a	0.480 ^a	0.326 ^a	0.055	1.000			
F5	0.163 ^b	-0.054	-0.027	-0.110	-0.018	1.000		
F6	0.464 ^a	0.495 ^a	0.317 ^a	-0.053	0.493 ^a	-0.110	1.000	
F7	0.356 ^a	0.173 ^b	0.042	0.111	0.273 ^a	0.048	-0.010	1.000

Note: ^a $\alpha < 0.01$; ^b $\alpha < 0.05$

Before proceeding with the regression analysis, the variance inflation factors (VIF) were calculated to test

for multicollinearity (Table 2). They were all within acceptable bounds and thus multicollinearity was not a problem.

Table 2 Summary of regression analysis

Independent variables	Standardized coefficients beta	t	Sig. of t	VIF
F1	-0.027	- 0.496	0.621	1.603
F2	0.050	1.025	0.307	1.251
F3	0.009	0.213	0.831	1.031
F4	0.618	10.785	0.000 ^a	1.717
F5	0.186	4.195	0.000 ^a	1.032
F6	0.179	3.140	0.002 ^b	1.701
F7	0.180	3.859	0.000 ^a	1.140

Note: ^a $\alpha < 0.001$; ^b $\alpha < 0.01$ n = 191

To analyze the predictive value of organizational culture, entrepreneurship and market orientation for organizational innovation capability a stepwise regression analysis was carried out. The explanatory power of the final model for which the result was statistically significant is high ($R^2 = 0.65$, F-statistic 48.528, Sig. $\alpha < 0.001$). Summary of the regression analysis is presented in Table 2.

From the results in Table 2 we can conclude that only four out of seven independent factors presenting culture, entrepreneurship and market orientation significantly positively predicted organizational innovation capability (standardized beta coefficients are significant): F4 which is a general factor including different aspects of entrepreneurship, F5 presenting companies' policy of financing growth and the policy of exploring new opportunities, F6 presenting companies' extent and frequency of collecting information about market changes, customers and competitors and the extent of sharing information about market changes among different departments and F7 presenting the percentages of innovative ideas attracted from market information and the percentage of new products developed by using information about company's customers and competitors. The model did not include three factors presenting organizational culture: F1 which is a general factor including many aspects of organizational culture that support creativity and innovation, F2 which deals with the top management concern for education that improves creativity and top management system for evaluation and reward of creativity and innovation and F3 which describes how objectives and work are organized in companies. H4 is therefore not supported as organizational culture, that support creativity and innovation is not significant predictor of organizational innovation capability in Slovenian companies.

5 Conclusions

The findings of this study support the argumentation that in a rapidly changing environment, the company's entrepreneurship and market orientation have a central role in endeavours to achieve innovation capability and sustained competitive advantage. But to sustain competitive advantage, companies also need to develop culture and climate that support creativity and innovation. Organizational culture is often cited as being important determinant of organizational innovation capability. This research showed that in the case of Slovenian companies organizational culture that is supportive to creativity and innovation is not significant predictor of organizational innovation

capability.

The lack of innovation culture has also been confirmed by some other empirical studies on attitudes and behaviour of Slovenian entrepreneurs, especially in SMEs [17], [18], [19]. The results show a very low percentage of Slovenian firms that have introduced innovation.

Liberalisation of economy and opening up of the market to global competition has forced Slovenian companies to improve their innovation capability. This is to some extent valid also for companies in countries belonging to EU. Namely, according to EU Innovation Scoreboard 2005-EIS [20], EU countries lag behind USA and Japan as regards innovations. Slovenia is on the fourteenth place among EU countries and on the second place among transition countries that joined to EU. The absence of the culture supporting creativity and innovation in many companies in Slovenia is to some extent due to the former political and economic systems in transition economies. Many old practices originating from the old systems are no longer compatible with the requirements of a rapidly changing environment, which has consequently discouraged the development of organizational capabilities needed today. In the Eastern and Central European transition countries, the changes from a centrally planned to a market driven economy were radical, which resulted in the inability of the organizations to simultaneously change internally and cope with external changes effectively. These countries are still undergoing major changes in their political and, especially, their economic systems. These changes towards increasingly changing and complex business environment have an inevitably significant impact on organizations' external environment and their competitive capabilities.

Having a climate and culture which is conducive to successful innovation is in companies in transition economies essential, together with management commitment and support and their eagerness and motivation to seek the introduction of new products/ideas on a regular basis. Managers should be supportive and help every employee to understand and accept the core principles and values, which apply to everyone in the organization. They should encourage and support risk-taking. Managers also should encourage self-initiated activity, where individuals and teams own problems and their solutions, so that intrinsic motivation is enhanced. The employees should be encouraged to challenge their assumptions and perceptions regarding procedures, products and processes. Individuals and teams should have relatively high autonomy regarding their work and a sense of ownership and control over their own work

and own ideas [21]. Creativity and innovation should be considered as desirable and normal and innovators considered as role models to be identified with. Innovation should be treated as a voluntary activity but employees should believe that creativity and innovation is vital for organization to remain competitive. Management should provide involvement, teamwork and the thinking – that innovation is everybody responsibility. Management support is provided also by rewarding creativity and innovation and by resource allocation and utilization.

The process of stimulating culture that support creativity and innovation is in Slovenian companies fundamentally based on building the intellectual capital within the company that will yield the competencies and capabilities for creativity and innovation. In this respect learning organization and the core activities of training are important: needs identification, setting objectives, designing and delivering content, getting feedback, evaluating results. Learning organization, knowledge management and training itself has a central role.

Communication and collaboration are well recognized factors in stimulating ideas since individuals, groups and company can learn from each other only if they communicate [22]. Thus cross-functional communication, by means of internal communication or cross-functional teams, enable people to become involved in all parts of the company and makes innovation useful to everyone. Openness, sharing and knowledge transfer are crucial factors in ensuring that ideas are implemented into valuable organizational innovations, by increasing the quantity and quality of information and helping people to gain different perspectives. The flow of ideas across a company needs to be facilitated by participative management and decision-making.

Thus, it seems appropriate to recommend to the managers in Slovenian companies to devote much more attention to processes that support creativity and innovation. In this sense the results of the research can be used by managers in Slovenia for future actions necessary to improve innovation capability of their companies.

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