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Effects of Service Standards Communication and Servant Leadership on Strategic Competence and Customer Orientation

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Service standards communication and servant leadership are both important mechanisms to improve an organization's service process. Therefore, they are likely to affect strategic competence and customer orientation skills of organizations. In this research, customer orientation and strategic competence are undertaken in relation with servant leadership and service standards communication, using a sample of 106 Turkish firms' executive assistants. The results prove that service standards communication and servant leadership have a strong positive relationship with both strategic competence and customer orientation.

Keywords: service standards communication, servant leadership, strategic competence, customer orientation

Introduction

Strategic competence and customer orientation are both critical concepts in determining an organization's relations with employees and customers. While service is one of the fundamental processes in organizational management, it has an important effect on determining the strategic competence and customer orientation. Within this research, service standards communication and servant leadership as two main variables in the service process are undertaken in relation with strategic competence and customer orientation. After the literature review and hypotheses development, the method of the research is explained and the results are discussed.

Literature Review

Service Standards Communication

Service standards communication is based on employees' perceptions about the organization's ability to communicate what is expected from employees in terms of service standards, practices, and behaviors (Lynn & Lytle, 2000). Service standards communication is the degree to which the organization measures, controls, and communicates service quality standards (Garcia, Varela, & del Rio, 2011). Service standards guide employees by providing a framework of what is expected from them and the actions that they can do. For the service process to work efficiently, service standards should be known by members of the organization.

Conformance to service standards will be met if they are communicated well to all members of the

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organization (Ro & Chen, 2011). Therefore, effective communication of service standards is needed to achieve a high quality of service. According to Bitner, Booms, and Tetreault (1990), the attitudes and behaviors of employees in the employee-customer interactions affect customers' service perceptions. Garcia et al. (2011) verified the positive effect of organizational service standards communication system on the job satisfaction of customer contact employees and the moderating effect of employee customer orientation on the relationship between service standards communication and employee job satisfaction.

As seen from the existing literature, service standards communication affects employee-customer interactions, job satisfaction, satisfying customers, and strategic priorities. Hence, it is likely for service standards communication to have a positive effect on strategic competence and customer orientation. Within the scope of this research, the relationship of service standards communication with strategic competence and customer orientation is empirically analyzed.

Servant Leadership

The term servant leadership indicates the behavior of management setting service examples for its employees. Servant leaders are actively engaged in helping, assisting, and meeting the needs of their employees (Lytle, Hom, & Mokwa, 1998). Rather than just dictating how to provide service, servant leaders present service examples to employees (Lynn & Lytle, 2000). Thereby, managers try to stand out as examples for their employees in their behavior with the customers and to shape the service climate of the organization. Servant leaders rely on one to one communication with their employees in order to understand their potential and bring out the best out of them. In this process, servant leaders stand out as role models for their employees.

Babakus, Yavas, and Ashill (2011) examined the effect of customer orientation and servant leadership of frontline employees' burnout and turnover intentions. Church (1995) found that leadership behaviors of managers directly affect the service quality and organizational performance. If employees receive excellent service from their own managers, they are more likely to provide excellent service to customers (Heskett, Sasser, & Hart, 1990; Hallowell, Schlesinger, & Zornitsky, 1996; Church, 1995; Lynn & Lytle, 2000).

The locus of servant leadership is to serve employees, who in turn will serve customers. Throughout this process, servant leaders consider their employees' needs before their own and create a service climate built on trust and willingness to deliver excellent service to customers. Hence, employees will be motivated and will do their best to serve customers due to the examples set by their leaders (Babakus et al., 2011). While servant leadership increases employees' willingness to serve customers in a better way, servant leadership is likely to increase strategic competence and customer orientation. This relationship is empirically analyzed in this research.

Strategic Competence

Strategic competence is the goodness of fit between a company's business strategy and the external competitive environment (Baker, Mapes, New, & Szwajczewski, 1997). Strategic competence indicates the skill of management's key strategic functions such as R&D, quality product development, marketing, and distribution (Knight, 2001). In a very brief way, strategic competence may be defined as "knowledge ability of the strategy" (Fauré & Rouleau, 2011).

Strategic competences are key features of a firm which supports its competitive position. For some companies, manufacturing capability is the primary strategic competence, and for some other, the strategic competence is the development and marketing of new products (Baker et al., 1997). Fauré and Rouleau (2011) evaluated the term strategic competence from the perspective of accountants and middle managers. Within their

study, they defined strategic competence as “the knowledge of the strategy that accountants and middle managers draw on in their daily activities and conversations around numbers” (Fauré & Rouleau, 2011). Phakiti (2008) considered strategic competence as a part of communicative language ability. Some researchers, such as McKee, Conant, Varadarajan, and Mokwa (1992) and Porter (1991), have suggested that firms use strategic competence to maximize strategic and financial performance and thus create market imperfections (Knight, 2001).

As stated above, strategic competence indicates management’s key strategic functions, the knowledge on the organization, and its strategy. Service standards communication and servant leadership are both mechanisms in an organization to pass information competencies to members. Therefore, it is likely that service standards communication and servant leadership will have a relationship with strategic competence. Hypotheses 1 and hypotheses 2 of this study are stated in order to clarify this relation:

H1: Service standards communication will have a significant positive effect on strategic competence;

H2: Servant leadership will have a significant positive effect on strategic competence.

Customer Orientation

According to J. Hogan, R. Hogan, and Busch (1984), customer orientation is a disposition to serve customers in a helpful, considerate, and cooperative manner. According to the definition of Kohli and Jaworski (1990), customer orientation is an organization’s wide generation and dissemination of responsiveness to market intelligence (Desphande, Farley, & Webster, 1993). Desphande et al. (1993) described customer orientation as “the set of beliefs that puts the customer’s interest first, while not excluding those of all other stakeholders such as owners, managers, and employees, in order to develop a long term profitable enterprise”. The researchers have noted that they see customer orientation as being a part of corporate culture, but with a much more fundamental place. According to Henning-Thurau (2004), service employees’ level of customer orientation is a key driver for customers’ satisfaction with the firm.

Many researchers have investigated customer orientation. Desphande et al. (1993) found out that customer orientation is related positively to business performance. Existing researches, such as Babakus et al. (2009), Dienhart and Gregoire (1993), Donavan, Brown, and Mowen (2004), and Kusluvan (2003), have discovered that customer orientated employees are more successful in job performance exhibiting a higher organizational citizenship behavior (Ro & Chen, 2011). Saxe and Weitz (1982) have developed a SOCO scale to measure sales/customer orientation within an organization’s sales staff. Desphande et al. (1993) considered customer orientation as a part of an organization’s culture. Some researchers evaluated customer orientation as market orientation (Shapiro, 1988; Kohli & Jaworski, 1990; Webster, 1992; Deshpande et al., 1993). Although some studies highlight that customer orientation and market orientation are different terms, many authors use them interchangeably, relying on the fact that the term market represents an organization’s clients (Saura, Contri, & Taulet, 2005). Saura et al. (2005) have empirically analyzed the relationship among customer orientation with service orientation and job satisfaction and found direct positive associations with all terms. The results of Liaw, Chi, and Chuang’s study (2010) indicate that transformational leadership increases employee customer orientation. Kelley (1992) found that higher levels of customer orientation result from favorable perceptions of organization climate, higher levels of motivational direction, and organizational commitment.

Within the interest of this research, customer orientation is undertaken in relation with servant leadership and service standards communication, while they are both mechanisms used in an organization to improve

service process. Hypotheses 3 and hypotheses 4 are stated in order to evaluate the relationship between customer orientation with service standards communication and servant leadership:

H3: Service standards communication will have a significant positive effect on customer orientation;

H4: Servant leadership will have a significant positive effect on customer orientation.

Methodology

Research Objective

This research aims to detect the effects of service standards communication and servant leadership on strategic competence and customer orientation. For this purpose, four hypotheses are developed and the results are tested with a relational model.

Measures and Development of the Research Instrument

Measures of this research are composed from existing scales. These scales were selected, after many studies about the field have been evaluated and the chosen scales were included in this research, because they represent some of the most important scales in the related fields. Customer orientation scale of Deshpande et al. (1993), service standards communication and servant leadership scales of Lytle et al. (1998), and strategic competence scale assessed by Knight (2001) using a collection of items devised for this purpose by McKee et al. (1992) were used.

The research questionnaire was formed using the above scales on a five-point Likert. The original scales were in English. To apply the scales to Turkish participators, the questionnaire was translated to Turkish using the method of back-translation. The translation of the research instrument is a critical process for the validity of the research. Therefore, the back translation method has been used to ensure validity. The research was first translated from English (original language) to Turkish (target language) by an expert, then another expert translated the material from the target language to the original language. The two translations were compared for concept equivalence when the problematic items were fixed.

Sample

The study was applied to 106 companies' representatives (executive assistants) of the Aegean Industry and Business Association (ESIAD). The sample represents many of the most important firms in the Aegean Region of Turkey, demographics of the participants may be seen in Table 1. Service is directly related with the perceptions of employees and their ideas likely to project the service orientation of the firm (Dephande et al., 1993). Hence, the executive assistants who are the primary people near to the CEO's of the firms have been reached. Gender, education, and years of employment of the sample may be seen below.

Table 1

Participants' Demographics

Gender	
Female	42
Male	64
Education	
High school	13
Bachelor's	87
Master's	16

Table 1 to be continued

Years of employment	
1 year	38
1-3 years	44
4-6 years	15
7 years and more	9
Total	106

Findings

The results of the research have been analyzed using SPSS 17. Firstly, demographic breakdown, reliability analysis, and exploratory factor analysis were done. The factor loadings, means, and standard deviations of dimensions were determined and reliability tests were proved. Afterwards, multiple regression analysis was carried out to test the hypotheses of research.

First of all, data have been tested to see the normal distribution. Results of the Shapiro-Wilk test ($p > 0.05$), skewness (0.235), kurtosis (0.465), and the visual results of histogram, normal $q-q$ plots, and box plots (Kalaycı, 2010) have been used to see if data are distributed normally. The normality results showed that the null hypotheses have been rejected (Shapira-Wilk test $p > 0.05$), the data are distributed as a normal curve and they are a little skewed and kurtotic, but are not significantly different from normality (Cramer, 1998). Hence, the normality tests have been proved.

Using exploratory factor analysis and reliability analysis, the factors loading of each item and Cronbach's alpha values have been determined. To enable the right distribution of factors into dimensions, four items were removed from the study with the results of the exploratory factor analysis: one item from servant leadership dimension (SL2), one item from strategic competence (SC2), and two items from customer orientation (CO1, CO2). The results may be seen in Table 2.

KMO value shows that whether the data is appropriate for the analysis. The KMO value may differ between 0 and 1. It is expected that the KMO value is at least 0.60 (Pett, Lackey, & Sullivan, 2003). If it is between 0.5-0.7, it is considered as normal, a KMO between 0.7-0.8 is considered as good, a value between 0.8-0.9 is considered as very good, and a value above 0.9 is considered to be perfect (Field, 2009). The result of this factor analysis has a very good KMO value (0.895).

Reliability estimates for each dimension exceeded 0.70, the threshold Nunnally (1978) recommended. As seen in Table 2, all dimensions have Cronbach's Alpha values greater than the suggested value of 0.60. In fact, the minimum alpha value is 0.840 which is an important prove for the high reliability of the scale.

Total item correlations are between 0.501-0.860, which indicates that they are much higher than what Saxe and Weitz (1982) have suggested (0.32). This proves that the instrument purveys the minimum standards for collision validity. All items were designed on a five-point Likert scale (5 = strongly agree, 1 = strongly disagree). As seen in Table 3, the mean values of all variables are between 3.5-4.0, which indicates that the sample is inclined to "agree" with the variables. The standard deviation is on the highest level for service standards communication and on the lowest level for customer orientation. This shows that the participants have more varied opinions on service standards communication and more similar views on customer orientation.

To test the research hypotheses, two multiple regression analyzes were done. The first multiple analysis clarifies the hypotheses about strategic competence and the second about customer orientation. The results may be seen in Table 4 and Table 5.

Table 2
Item Loadings and Cronbach's Alpha Values

Service standards communication	Item loadings	Cronbach's Alpha
Service performance measures are communicated openly with all employees regardless of position function. (SSC5)	0.814	0.903
We do not wait for customers to complain, we use internal standards to pinpoint failures before we receive customer complaints. (SSC1)	0.714	
Every employee understands all of the service standards that have been instituted by all departments. (SSC3)	0.711	
Every effort is made to explain the results of customer research to every employee in the understandable terms. (SSC2)	0.671	
We have a developed chain of objectives linking together every branch in support of the corporate vision. (SSC4)	0.577	
Servant leadership		
Management is constantly measuring service quality. (SL3)	0.704	0.906
Management constantly communicates the importance of service. (SL1)	0.659	
Management provides resources, not just lip service to enhance employee ability to provide excellent service. (SL5)	0.635	
Managers give personal input and leadership into creating quality service. (SL6)	0.599	
Management shows that they care about service by constantly giving themselves. (SL4)	0.584	
Strategic competence		
Utilizing highly skilled sales force/agents is important to my firm's strategy. (SC4)	0.860	0.861
Developing innovative marketing techniques is important to my firm's strategy. (SC3)	0.800	
Over the past 5 years, we have significantly improved the efficiency of marketing functions such as sales, distribution, and advertising. (SC5)	0.583	
My firm favors a strong emphasis on R&D and product innovations. (SC1)	0.542	
Customer orientation		
We know our competitors well (CO3)	0.832	0.840
The customer's interest should always come first, ahead of the owners. (CO7)	0.785	
We compete primarily based on product or service differentiation. (CO6)	0.698	
We have a good sense of how our customers value our products and services. (CO4)	0.657	
Our products/services are the best in the business. (CO8)	0.612	
I believe this business exists primarily to serve customers. (CO9)	0.544	
We are more customer focused than our competitors. (CO5)	0.501	

Notes. KMO and Barlett's Test: 0.895; Sig: 0.000.

Table 3
Means and Standard Deviations

Dimensions	Mean	Std. Deviation
Service standards communication	3.61	0.837
Servant leadership	3.77	0.804
Strategic competence	3.91	0.800
Customer orientation	3.86	0.648

Note. $P < 0.01$.

In multiple regressions, R^2 value shows how much the independent variables are able to test the dependent variable. Standard error shows the standard deviation in the distribution of the results. P -value shows the significance of the model. Durbin-Watson is used to test autocorrelation. Values close to 4 indicate a very negative correlation, values near 0 indicate a very positive correlation, and values near 2 show that there is no

autocorrelation. Hence, the expected value is between 1.5 and 2.5 (Kalaycı, 2010). All of these indicators have been shown in the results of the multiple regressions.

Table 4

Multiple Regression Analysis for Strategic Competence

$R^2 = 0.496$	Standard error = 0.573	$F = 50.689$	$p < 0.001$	
Durbin-Watson: 2.079				
Independent variables: Service standards communication (SSC), Servant leadership (SL)				
Dependent variable: Strategic competence (SC)				
Independent variable	Std. Error	Beta ^a	<i>t</i> -value	Sig. ^b
SSC	0.111	0.2962	0.553	0.012
SL	0.115	0.445	3.838	0.000

Table 5

Multiple Regression Analysis for Customer Orientation

$R^2 = 0.596$	Standard error = 0.416	$F = 75.914$	$p < 0.001$	
Durbin-Watson: 2.035				
Independent variables: Service standards communication (SSC), Servant leadership (SL)				
Dependent variable: Customer orientation (CO)				
Independent variable	Std. Error	Beta ^a	<i>t</i> -value	Sig. ^b
SSC	0.080	0.3483	0.352	0.001
SL	0.084	0.4654	0.478	0.000

The R^2 value shows that 49.6% of strategic competence may be explained by service standards communication and servant leadership. For the remaining 50.4%, other independent variables should be added to the model.

Significance values for all three independent variables prove a significant relationship with strategic competence while all values are smaller than 0.05.

The relation between service standards communication and strategic competence is significantly positive (*t*-value: 2.553, $\beta = 0.296$). Also, the relation between servant leadership and strategic competence turned out to be significantly positive (*t*-value: 3.838, $\beta = 0.445$). Therefore, both hypotheses on strategic competence are supported (H1: Service standards communication will have a significant positive effect on strategic competence; H2: Servant leadership will have a significant positive effect on strategic competence).

The R squared value shows that 59.6% of strategic competence may be explained by service standards communication and servant leadership. For the remaining 40.4%, other independent variables should be added to the model.

Significance values for all three independent variables prove a significant relationship with strategic competence while all values are smaller than 0.05.

The relation between service standards communication and customer orientation is significantly positive (*t*-value: 3.352, $\beta = 0.348$). Also, the relation between servant leadership and customer orientation turned out to be significantly positive (*t*-value: 4.478, $\beta = 0.465$). With these results, both hypotheses on customer orientation are supported (H3: Service standards communication will have a significant positive effect on customer orientation; H4: Servant leadership will have a significant positive effect on customer orientation).

Conclusions

Within this research, the effects of service standards communication and servant leadership on strategic

competence and customer orientation have been evaluated. The results of the multiple regression analysis have supported all four of the research hypotheses.

Service standards communication and servant leadership explain 49.6% of strategic competence. The relation between service standards communication and strategic competence (t -value: 2.553; $\beta = 0.296$) and the relation between servant leadership and strategic competence (t -value: 3.838, $\beta = 0.445$) turned out to be significantly positive. And 59.6% of strategic competence is explained by service standards communication and servant leadership. The relation between service standards communication and customer orientation (t -value: 3.352, $\beta = 0.348$) and the relation between servant leadership and customer orientation (t -value: 4.478, $\beta = 0.465$) turned out to be significantly positive.

The results provide evidence that strategic competence and customer orientation are strongly affected by service standards communication and servant leadership. Further analysis of the issue may be carried on with other service related variables that are likely to explain strategic competence and customer orientation. Qualitative techniques can be used to determine these variables and larger samples may be more efficient in doing further analysis.

References

- Babakus, E., Yavas, U., & Ashill, N. J. (2011). Service worker burnout and turnover intentions: Role of person-job fit, servant leadership and customer orientation. *Services Marketing Quarterly*, 32, 17-31.
- Baker, J. C., Mapes, J., New, C. C., & Szwajkowski, M. (1997). A hierarchical model of business competence. *Integrated Manufacturing Systems*, 8(5), 265-272.
- Bitner, M. J., Booms, B. H., & Tetreault, M. S. (1990). The service encounter, diagnosing favorable and unfavorable incidents. *Journal of Marketing*, 54, 71-84.
- Church, A. H. (1995). Linking leadership behaviors to service performance: Do managers make a difference? *Managing Service Quality*, 5(6), 26-31.
- Cramer, D. (1998). *Fundamental statistics for social research*. Routledge: London.
- Desphande, R., Farley, J. U., & Webster, F. E. (1993). Corporate culture, customer orientation and innovativeness in Japanese firms: A quadrad analysis. *Journal of Marketing*, 57(1), 23-37.
- Dienhart, J. R., & Gregoire, M. B. (1993). Job satisfaction, job involvement, job security, and customer focus of quick-service restaurant employees. *Journal of Hospitality & Tourism Research*, 16(2), 29-43.
- Donavan, D. T., Brown, T. J., & Mowen, J. C. (2004). Internal benefits of service-worker customer orientation: Job satisfaction, commitment, and organizational citizenship behaviors. *Journal of marketing*, 68(1), 128-146.
- Fauré B., & Rouleau, L. (2011). The strategic competence of accountants and middle managers in budget making. *Accounting, Organizations and Society*, 36(3), 167-182.
- Field, A. (2009). *Discovering statistics using SPSS*. Thousand Oaks: Sage Publications.
- Garcia, T., Varela, J., & del Rio, M. (2011). Organizational service systems: Antecedents and consequences. *Tourism and Hospitality Research*, 11, 67-82.
- Hallowell, R., Schlesinger, L. A., & Zornitsky, J. (1996). Internal service quality, customer and job satisfaction: Linkages and implications for management. *Human Resource Planning*, 19, 20-31.
- Henning-Thurau, T. (2004). Customer orientation of service employees—Its impact on customer satisfaction, commitment, and retention. *International Journal of Service Industry Management*, 15(5), 460-478.
- Heskett, J. L., Sasser, W. E., & Hart, C. W. L. (1990). *Service breakthroughs: Changing the rules of the game*. New York: Free Press.
- Hogan, J., Hogan, R., & Busch, C. M. (1984). How to measure service orientation. *Journal of Applied Psychology*, 69(1), 167-167.
- Kalaycı, Ş. (2010). *SPSS uygulamalı çok değişkenli istatistik teknikleri* (5th ed.). Ankara: Alfa Yayınları.
- Kelley, S. W. (1992). Developing customer orientation among service employees. *Journal of the Academy of Marketing Science*, 20(1), 27-36.
- Knight, G. A. (2001). Entrepreneurship and strategy in the international SME. *Journal of International Management*, 7, 155-171.

- Kohli, A. K., & Jaworski, B. J. (1990). Market orientation: The construct, research propositions and managerial implication. *Journal of Marketing*, 54, 1-18.
- Kuslivan, S. (2003). *Employee attitudes and behaviors and their roles for tourism and hospitality businesses. Managing Employee Attitudes and Behaviors in the Tourism and Hospitality*. New York: Nova Science Publishers.
- Liaw, Y., Chi, N., & Chuang, A. (2010). Examining the mechanisms linking transformational leadership, employee customer orientation, and service performance: The mediating roles of perceived supervisor and coworker support. *Journal of Business Psychology*, 25, 477-492.
- Lynn, M. L., & Lytle, R. S. (2000). Service orientation in transitional markets: Does it matter? *European Journal of Marketing*, 34(3/4), 279-298.
- Lytle, R. S., Hom, P. W., & Mokwa, M. P. (1998). SERVOR: A managerial measure of organizational service-orientation. *Journal of Retailing*, 74(4), 455-489.
- McKee, D., Conant, J., Varadarajan, P. R., & Mokwa, M. (1992). Success-producer and failure-preventer marketing skills: A social learning theory interpretation. *Journal of Academic Marketing Science*, 20(1), 17-26.
- Nunnally, J. C. (1978). *Psychometric theory* (2nd ed.). New York: McGraw-Hill.
- Pett, M. A., Lackey, N. R., & Sullivan, J. J. (2003). *Making sense of factor analysis: The use of factor analysis for instrument development in health care research*. Thousand Oaks: Sage Publications.
- Phakiti, A. (2008). Strategic competence as a fourth-order factor model: A structural equation modeling approach. *Language Assessment Quarterly*, 5(1), 20-42.
- Porter, M. E. (1991). Towards a dynamic theory of strategy. *Strategic management journal*, 12(2), 95-117.
- Ro, H. & Chen, P. J. (2011). Empowerment in hospitality organizations: Customer orientation and organizational support. *International Journal of Hospitality Management*, 30, 422-428.
- Saura, I. G., Contri, G. B., & Taulet, A. C. (2005). Relationships among customer orientation, service orientation, and job satisfaction in financial services. *International Journal of Service Industry Management*, 16(5), 497-525.
- Saxe, R., & Weitz, B. A. (1982). The SOCO scale: A measure of the customer orientation of salespeople. *Journal of marketing research*, 19(3), 343-351.
- Shapiro, B. (1988). What the hell is market oriented? *Harvard Business Review*. Retrieved from: <https://hbr.org/1988/11/what-the-hell-is-market-oriented>
- Webster, F. E. (1992). The changing role of marketing in the corporation. *Journal of Marketing*, 56, 1-17.

Defining the Entrepreneurial Capital Construct

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The purpose of this paper is to show preliminary results from an international research project on intellectual capital and value creation led by Lappeenranta University of Technology (Finland). In the case of this paper, results from Italy will be reported and specifically. The Italian analysis focuses on the entrepreneurial capital (EC) and it analyses how large Italian companies develop and enhance this intangible element. The main research question is: What is the current level of EC in Italian organizations and how does it affect value creation? To this end, the research addressed the different definitions of EC that literature offers. As a secondary step, this paper analysed the variables suggested by previous literature and proposed an original definition for the research project. The definition is that EC is a stock of competences and the personnels' attributes related to proactive, risky, and aggressive decision-making and behaviour. This research provides researchers and managers with unique insights into the evolutionary nature of the relationships between distinct IC variables and draws a picture on the state of art of corporate EC in the selected sample. This research highlights and improves companies' abilities to manage their EC. Furthermore, this research will set the agenda for improving the EC practices of Italian companies and will allow future comparison with firms from other countries that are participating in the same project identifying different pathways to success.

Keyword: entrepreneurial capital (EC), risk-taking, proactiveness and autonomy, aggressiveness

Introduction

The purpose of this paper is to show preliminary results from the Italian research unit of an international project on intellectual capital and value creation led by Lappeenranta University of Technology—LUT (Finland).

The two key academic discussions addressing knowledge in organizations are intellectual capital (IC) and knowledge management (KM) streams of research. In particular, IC literature focuses on intangible resources that contribute to value creation (Edvinsson & Malone, 1997) that is “knowledge-based resources that contribute to the sustained competitive advantage of the firm” and “knowledge that can be converted into profits”. However, very few earlier studies systematically combine IC and KM practices to examine the key knowledge-related factors impacting value creation in firms.

Yet, the main question of the overall project is how IC assets and their management practices interact to

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create value. The common goal of the international research team is to examine the current state of IC stocks and KM practices, and how these interact in firms' value creation.

Academic partners involved in the project are the following:

- Lappeenranta University of Technology, Finland (the core team);
- University of Rome, Italy;
- Hong Kong Polytechnic University, China;
- Deusto Business School, University of Deusto, Spain;
- St. Petersburg University Graduate School of Management, Russia;
- Educons University, Serbia;
- Universidade Lusiana, Portugal;
- Academy of Economic Studies, Bucharest, Romania.

In most studies, IC has been seen to consist of three elements: human capital, structural capital, and relational capital (Bontis, 1998; Guthrie, 2001). The IC literature helps in identifying the kind of intangible resource stocks within the firms and in assessing them. However, are the above-mentioned three elements sufficient?

In this research design, it suggests that three additional elements could be included in IC visualizing and mapping: "renewal capital", in terms of innovative solutions, products, and services available for the firms, "trust capital" (i.e. the trust embedded in its internal and external relationship), and "entrepreneurial capital (EC)" (i.e. the competence and commitment related to entrepreneurial activities in the organization) (Kianto, 2007; Kianto, 2008; Kianto et al., 2013).

Within the overall project, the Italian research unit will focus on EC. In particular, how medium-sized and large Italian companies develop and enhance this intangible element will be analyzed. Consequently, the research questions of the investigation are the following: What is the current level of EC in Italian organizations and how does it affect value creation?

To this end, this investigation aims to highlight the importance of EC as a stand-alone component of the IC. As a secondary step, it will analyse the variables suggested by previous literature trying to understand this phenomenon and propose a definition that fits the research design. The emerging definition is that EC is a stock of competences and the personnels' attributes related to proactive, risky, innovativeness, and aggressive decision-making and behaviour.

This research agenda will provide academics and managers with unique insights into the state of the art of corporate EC in the selected sample.

Furthermore, this research will set the agenda for improving the EC practices of Italian companies and will allow future comparison with firms from other countries that are participating in the same project, identifying different pathways to success.

Literature Review

IC has been defined as "the total stock of capital or knowledge-based equity that the company possesses" (Dzinkowski, 2000). IC is either the end product of a knowledge transformation process or the stock of organizational knowledge itself. IC incorporates three main components that together form value: human capital, organizational (structural) capital, and customer (or relational) capital (Bontis, 1998; Guthrie, 2001).

Human capital refers to and includes know-how, education, work-related competencies, and psychometric assessments. McGregor, Tweed, and Pech (2004) defined human capital as the size and quality of broader labor

markets, but also as the sum of individual competencies in organizations. Teece (2000) recognized that knowledge assets or products result from the experience and expertise of individuals. However, the “physical, social, and resource allocation structure” of organizations are important, if such experience and expertise are to be translated into competencies that help generate knowledge products (Teece, 2000; McGregor et al., 2004).

The term structural capital reflects these allocation structures and includes assets such as corporate culture, management processes, databases, organizational structure, patents, trademarks, and financial relations. Engstrom, P. Westnes, and S. Westnes (2003, p. 288) suggested that structural capital includes all non-human storehouses of knowledge in organizations.

Finally, relational or customer capital refers to, in part, an organization’s customers, brands, customer loyalty, and distribution channels. Customer capital also refers to consumers as repositories of information and knowledge that is valuable to organizations (Bontis, 1998).

For the purpose of this research, it deems that EC (roughly intuitively defined as the competence and commitment related to entrepreneurial activities in the organization) should be taken into consideration as a stand-alone element of IC in the light of the following rationale:

- In an unsteady and unpredictable business environment like today, EC might be found as one of the most influent intangible to enhance corporate value;
- The construct of EC is characterized by several attributes which, in the traditional definition of IC refer both to human capital (i.e. entrepreneurial competence and behavior) and structural capital (i.e. entrepreneurial corporate culture and processes).

Previous Studies in the Field of Entrepreneurship

It must be highlighted that no previous research within the IC domain refers to EC, while many efforts have been made in the field of entrepreneurship studies especially to investigate the relationship between corporate Entrepreneurial Orientation (EO) (also called corporate entrepreneurship—CE) and firms’ performance.

Lumpkin and Dess (1996) defined EO as the propensity of firms to be innovative and proactive to the market place opportunities and be willing to take risk. While the EO is identified as a process, the entrepreneurship is defined as the content.

To Schumpeter (1934), an entrepreneur is a person who carries out new combinations, which may take the form of new products, processes, markets, organizational forms, or sources of supply. Entrepreneurship is, then, the process of carrying out new combinations. In contrast, Gartner (1988) stated that entrepreneurship is the creation of organizations. Gartner was careful to specify that this was not offered as a definition but rather as an attempt to change a long held and tenacious viewpoint in the entrepreneurship field toward “what the entrepreneur does, not who the entrepreneur is” (1990, p. 26). Nevertheless, it is clear from the literature that a large number of researchers in entrepreneurship have employed this definition, including Gartner, Bird, and Starr (1991) and Learned (1992).

The analysis of EC can have effect on two levels: the individual or organizational level, and how the influence contributes to performance depends on these levels. EO by some scholars is associated only to small and medium-size enterprise (SMEs), because they are responsible for the majority of economic growth and new job creation (Birch, 1979). But recently, there has also been particular attention paid to CE as a means of growth and strategic renewal for existing larger firms (Guth & Ginsberg, 1990).

The organizational dimension may be viewed as encompassing the entire range of organizational activities that involve planning, decision making, strategic management, and many aspects of the organization's culture, i.e. shared value system and corporate vision. So many researchers have focused on delineating the dimension of EO in different ways.

Miller (1983) said that an entrepreneurial firm is the one that engages in product market innovation, undertakes somewhat risky ventures, and is first to come up with "proactive" innovations and beating competitors to the punch.

So, to understand EO constructs, it must be said that there are different definitions and that the scholars have used several variables to identify EO constructs. At the organisational level, Vesper (1984) defined CE as any one of or any possible combination of new strategic directions, initiative from below, and autonomous business creation.

In other circumstances, reference is made, describing it as a "process of transformation of organizations through strategic renewal" (Antoncic & Hisrich, 2001; Guth & Ginsberg, 1990), corporate venturing (creating business on existing or new fields, markets or industries using a core competency within a firm (Ellis & Taylor, 1987; Narayanan, Yang, & Zahra, 2009)), organizational innovation (Sharma & Chrisman, 1999; Yiu & Lau, 2008), as well as intrapreneuring (creating an entrepreneurial mindset or culture within a firm (Pinchot, 1985; Thornberry, 2001)).

At the individual level, EO has been associated to an individual who creates innovation of any kind within an established firm (Pinchot, 1985). A corporate entrepreneur is someone who engages in identifying and developing new opportunities relative to operations, methods, products or markets, sets the strategic vision for the organization or persuades the top management to adopt these opportunities, and motivates others to implement them (Ireland, Covin, & Kuratko, 2009). In more general terms, corporate entrepreneurs are managers or employees who demonstrate key entrepreneurial attributes or behaviors within an established firm.

Each definition in the different levels (organizational or individual) has been associated with a number of characterizing variables that will be discussed in the following sections.

For each definition, all the researchers provided several variables to explain the meaning of EO/CE and its synonyms.

Each of the variables used was explained by attributing a shared definition. In the following sections, it'll report on the meanings of some of the variables used by the scholars:

- Innovativeness: developing new or improved products or services; involving radical and discontinuous change, improvement and redevelopment of existing products or processes, or the introduction of novel products or production methods based on new technology;
- Risk taking: measuring and taking risks for the sake of profits; taking bold actions such as venturing units into unknown new markets or committing a large portion of resources to ventures with uncertain outcomes; preference is for moderately high risks rather than extremely high risks;
- Networking: developing personal relationships in which others willingly defer to one's wishes; networks include all internal and external, as well as formal and informal relationships that share information, experiences and resources and/or provide social and emotional support; networks represent a source of power that facilitates the acquisition of physical and monetary resources and advice, information and reassurance;
- Integration: being involved in all aspects of the organization; requiring seeing things in a broader perspective, analyzing things in the abstract, and putting seemingly unrelated elements together in a meaningful

way; involving the creating of a new order by selecting and fitting unrelated potential parts into a new pattern;

- **Opportunism:** recognising and exploiting opportunities to develop new products and processes, improve existing operations, and/or develop new marketing approaches; it may discover mundane opportunities that enhance efficiency or quality; evaluation of opportunities involves balancing inadequate commitment of resources and the potential for return;
- **Non system-bound orientation:** being unconstrained by rules, regulations and structures of existing organizational systems to be able to take advantage of opportunities; requiring manipulating or bypassing the system; such freedom must be justified from the perspective of organizational benefit;
- **Change orientation:** responding to environmental changes in a proactive or reactive manner; proactive approach involves taking the initiative to shape the environment to one's own advantage; reactive approach involves responding to changes rather than exploiting and initiating change;
- **Flexibility in control:** having the ability to adopt flexible planning systems and take varying degrees of control as appropriate to take advantage of emerging opportunities; facilitates changing strategic plans in response to highly complex and ever-changing environmental threats and opportunities;
- **Informality:** preferring simple systems and informal structures; characterized in terms of being autonomous, resistant towards conformity and having a low need for support; allowing for free crossing of organizational boundaries to promote a more open, cooperative atmosphere that is conducive to flexible decision-making processes, open communication and simplified work processes;
- **Result orientation:** focusing on results; making decisions and solving problems intuitively to foster commitment to action; it may become so immersed in work details that they are involved everywhere, ignoring corporate politics and individual egos, and violating bureaucratic procedures; similar to type a behavior in terms of intense competitiveness, time urgency, polyphasic behavior and preference of immediate action over planning.

Table 1

Literature Review: Definition of the Construct/Concept

Authors	Proposed Construct/Concept	Attributes/Variables Defining the Construct/Concept	Level: Individual/Organisational	Journal
Miller (1983)	Entrepreneurial orientation	Innovation, proactiveness, risk-taking	organisational	Management Science
Covin and Slevin (1989)	Strategic posture	Innovation, proactiveness, risk-taking	organisational	Strategic Management Journal
Lumpkin and Dess (1996)	Entrepreneurial orientation	Propensity to act autonomously, willingness to innovate, take risks, tendency to be aggressive toward competitors, tendency to be proactive toward marketplace opportunities	individual/organisational	Academy of Management Review
Zahra (1996)	Corporate entrepreneurship	Innovation, venturing, strategic renewal	organisational	Academy of Management Journal
Dess, Lumpkin, and Covin (1997)	Entrepreneurial strategy making	Top management "intentionality", organisational actor "autonomy"	organisational	Strategic Management Journal
Barrett, Balloun, and Weinstein (2000)	Corporate entrepreneurship	Innovation, proactiveness, risk-taking	organisational	Journal of Marketing Theory and practice
Goosen, De Coning, and Smit (2002)	Corporate entrepreneurship	Innovation, proactiveness, management's internal influence and relations	organisational	South African Journal of Business Management

Table 1 to be continued

Authors	Proposed Construct/Concept	Attributes/Variables Defining the Construct/Concept	Level: Individual/Organisational	Journal
Antoncic and Hisrich (2003)	Corporate entrepreneurship	New venture formation, product/service innovation, process innovation	organisational	Journal of Developmental Entrepreneurship
Yiu and Lau (2008)	Corporate entrepreneurship	Innovation, venturing, strategic renewal	organisational	Entrepreneurship Theory and Practice
Heavey, Simsek, Roche, and Kelly (2009)	Corporate entrepreneurship	Innovation, venturing, renewal	organisational	Journal of Management Studies
Ireland et al. (2009)	Corporate entrepreneurship strategy	Top-management's entrepreneurial, strategic vision, pro-entrepreneurship organisational architecture, entrepreneurial processes and behaviour	organisational	Entrepreneurship Theory and Practice

As can be seen in the previous table (Table 1), key words to define EO/CE are the following: risk taking, proactiveness, and innovation.

Despite many names and many variables studied, it is yet unclear that how these dimensions and business performance are linked. It is evident that all or at least a combination of some, exhibit some relationship with business performance, generally a positive link.

Lumpkin and Dess (1996) reasoned that the different variables of EC might lead to favorable outcomes on one performance dimension but unfavorable outcomes on another and this may also depend on different firm conditions (size, age, and firm context).

Research Design: From EO to EC

For the purpose of the current research, drawing from the above-mentioned literature, EC is comprehensively defined as a stock of competences and the personnels' attributes related to proactive, risky, innovative, and aggressive decision-making and behavior:

- Proactiveness means taking initiative by anticipating and pursuing new opportunities, and participating in emerging markets also has become associated with entrepreneurship;
- Risky reflects an acceptance of uncertainty and risk inherent in original activity and is typically characterized by resource commitment to uncertain outcomes and activities;
- Aggressive decision-making is the intensity with which a firm chooses to compete and efforts to surpass competitors reflecting a bias toward out doing rivals. Also it includes the authority and independence given to an individual or team within the firm to develop business concepts and vision and carry them through to completion (Hughes & Morgan, 2007);
- Innovativeness reflects the propensity of the firm to engage in a new idea and new processes and also new creative solutions and opportunities (Wiklund & Shepherd, 2003).

To further address how the different dimensions are related to performance and value creations, this paper here overviews several hypotheses. In fact, to draw the research design, it is necessary to examine how each individual variable of EC might influence business performance and value creation.

This paper will explore each above-mentioned dimension and investigate why a specific variable might have a positive influence on business performance and value creation.

HP 1: Proactiveness is positive linking with performance and value creation.

Proactiveness represents a forward-looking perspective where firms actively seek to anticipate opportunities to develop and introduce new or improved products, instigate changes to current strategies and tactics, and detect future trends in the market (Lumpkin & Dess, 1996; Slater & Narver, 1995).

Proactive firms, through proprietary learning and experience effects gained over time, tend to be more attuned to changes and trends in the marketplace, which yields opportunities to the firm to meet expressed and latent needs ahead of competitors (Hamel & Prahalad, 1991).

Proactiveness in firms is characterized by intentional change, that is, by force, acting on information to make change, not merely anticipating it (Bateman & Crant, 1993). This alleviates the risk of complacency by ensuring that firms are better placed to serve markets in the short term and shape them in the longer term. The emphasis on anticipating and acting on future needs orients the firm to seize initiative and act opportunistically in the marketplace, thereby shaping demand (Miller & Friesen, 1978).

HP 2: Risk-taking is positive related with performance and value creation.

Risk-taking represents a willingness to commit resources to implement projects, activities, and solutions that contain inherently a high level of uncertainty regarding the likely outcomes (Lumpkin & Dess, 1996). When deciding to take risks, firms must tolerate one of two possible scenarios—the first being the risk of failing and second, the risk of missing out on an opportunity (Dickson & Giglierano, 1986). The former is caused by fear, whereas the latter is caused by inaction. A tolerance of risk-taking orients the firm towards action and induces it to embrace uncertainty.

Timely risk-taking has been associated with strategic decision-speed and both have subsequently been linked to improved business performance (Eisenhardt, 1989).

Risk-oriented firms combine opportunity-seeking behavior with constructive risk-taking to generate a bias for exploration and exploitation (Baird & Thomas, 1990; Lumpkin & Dess, 1996).

Risk-taking managements usually seize opportunities and make commitments of resources before fully understanding what action needs to be taken (Covin & Slevin, 1991). Such an approach seeks to take advantage of evolving situations by capitalizing on the fact that markets rarely stabilize for any length of time. Risk aversion renders firms passive to developing new market opportunities, which is likely to deteriorate performance in an age of rapid change (Miller & Friesen, 1978).

HP 3: Aggressive decision-making is positive related with performance and value creation.

Firms that are highly aggressive see competitors as enemies that must be conquered.

Aggressiveness can be implemented through the mobilization of resources to launch direct attacks on competitors with the aim of overwhelming their market efforts, steadily erode their competitive strengths, or establish advantage through continuous offensive tactics (Davidson, 1987).

Aggressiveness can improve performance because the emphasis on out-doing and out-maneuvering competitors strengthens the firm's competitiveness at the expense of rivals (Lumpkin & Dess, 1996). Examples of the manifestation of such an aggressive competitive strategy include aggressive price competition, market entry with a new or superior offering, fast-following a rival into a market, continuously exploiting information, and using unconventional surprise tactics.

Such an emphasis on acquiring market share and customers by aggressively targeting rivals' weaknesses should improve performance, because it undermines competitors' ability to compete and restricts the ability of competitors to anticipate and respond to what the aggressive firm will do next. Since the aggressive firm does not sit still and constantly implements incremental and adaptive change to undermine competitors, it is

hypothesized that autonomy conveys the freedom to employees to encourage them to be self-directed, to exercise creativity, pursue opportunities, and champion new ideas which are essential for effective entrepreneurial activity to occur (Lumpkin & Dess, 1996).

Autonomy is, therefore, an important driver of flexibility, which is an essential attribute, if a firm is to be able to respond promptly to environmental change and market signals by quickly reconfiguring its actions and activities (Grewal & Tansuhaj, 2001). Flexibility is created, when people within the firm are given freedom to apply their human capital in ways that help the firm change adaptively and be responsive to the needs of its markets and actions of its rivals. A lack of autonomy would likely result in passivity when change is needed to initiate an effective response to opportunities and threats to performance. The presence of autonomy, in contrast, should encourage a greater flexibility in the firm to facilitate active and reactive response to change. Although some framework of coordination is likely to be needed, on balance, it can be expected that autonomy will be beneficial to improving business performance.

HP 4: Innovativeness is positive related with performance and value creation.

Innovativeness represents a bias toward embracing and supporting creativity, experimentation, technological leadership, and R&D in the development of products, services, and processes to generate novel solutions to customer needs and problems (Hughes & Morgan, 2007). It is said to be present when firms pursue active implementation of new ideas, products or processes, not merely their generation (Hurley & Hult, 1998).

Calantone, Çavuşgil, and Zhao (2002) established that firm innovativeness has a positive impact on performance and contributes to competitive advantage by facilitating creative thinking within a firm's learning activities. Innovativeness also improves the application of market intelligence acquired through market orientation activities, which can benefit performance (Han, Kim, & Srivastava, 1998; Hurley & Hult, 1998). Also, a study by Hult, Hurley, and Knight (2004) uncovered that innovativeness benefits business performance regardless of market turbulence. Innovativeness changes how a firm applies market information (Slater & Narver, 1995) and together informs the generation of intelligent solutions.

Survey

While the Italian research unit focuses on the EC, the overall research design aims to understand links between IC managing and value creation.

In the next paragraphs, the following steps will be addressed:

- (1) Operationalising variables;
- (2) Survey data collection;
- (3) Target respondent;
- (4) Public data collection.

Operationalising Variables

Operationalising variables in social science involves defining a concept so that it can be measured. All variables defining EC were addressed and discussed in meetings of the international working group.

As far as EC is concern, the followings are the operationalised variables and the related statement included into the questionnaire (Table 2).

It must be noted that in the social sciences, much of what people study is measured on what would be classified as an ordinal level. In the questionnaire, authors then assign a value of "1" if interviewees completely

disagree with the statement, up to a “5” if they completely agree with the statement.

The finalized research instrument (survey questionnaire) was distributed in the beginning of September 2013 by the LUT research team.

The questionnaire was in English. Each partner should take care in translating the questionnaire to their own language. Utilization of professional interpreter was the first step. Additionally, the substance and flow of the questions were finally checked by the Italian research team to ensure that respondents could answer the research questions. The core message of each item should remain the same to ensure standardization and applicability of the measures across countries.

The survey was conducted in exactly the same format in all cases. This means using all of the items in the survey, and in the same order, and with the same scales. The data were collected using survey questionnaires by the end of the year 2013.

Publicly available data were collected right after the primary data collection ended.

Table 2

Entrepreneurial Capital: Operationalised Variables and Related Statements

ENTCAP	Concept	Entrepreneurial capital	
	Variables	Risk-taking	
		Proactiveness	
		Aggressive decision-making	
		Innovativeness	
To what extent do the following statements on the entrepreneurial orientation apply to your company? (1 = completely disagree, 5 = completely agree)			
		1 2 3 4 5	
ENTCAP1	Risk-taking is regarded as a positive personal quality in our company.		
ENTCAP2	Our employees take deliberate risks related to new ideas.		
ENTCAP3	Our employees are excellent at identifying new business opportunities.		
ENTCAP4	Our employees show initiative.		
ENTCAP5	The operations of our company are defined by independence and freedom in performing duties.		
ENTCAP6	Our employees have the courage to make bold and difficult decisions.		
ENTCAP7	The operations of our company can be described as creative and inventive.		

Survey Data Collection and Targeted Population of Firms

In particular, the target population is made up of Italian limited liabilities companies with 100 or more employees. The companies involved were selected among 2,000 companies chosen by a random sampling procedure from the database AIDA, but according to the mix of a stratified sample representative of all population of the database (that is, companies were randomly chosen within a fixed percentage according to geographical area, sector of activity and size).

The main goal was to get a multi-industry sample with a representative variety of firms within Italy.

Up to April 2014, 100 companies have answered the questionnaire so far and this number is expected to increase during the next month. Additional economic and financial ratios have been obtained from AIDA database, which contains economic and financial information for Italian firms. Descriptive analysis techniques will then be applied and differences according to industry and size will be explored.

AIDA data base covers one million companies in Italy and it contains comprehensive information on Italian companies, including: detailed accounts following the scheme of the fourth directive CEE, indicators and trade description of Italian companies, ownership and management, consolidated accounts, and accounts in IFRS.

Targeted Respondent/Informant

The survey should be answered by one key informant from each firm, preferably CEO, because the CEO will have the best knowledge about the themes covered in the survey.

If the CEO cannot be realistically reached, the other high-level directors/managers in the following fields are feasible respondents (in the order of preference):

- Chief operating officer;
- HR/KM director;
- Development director.

The data have been collected from October 2013 and March 2014. A hybrid approach to gather data has been followed, first by internet survey: The research team used an internet-administered survey questionnaire (Google questionnaire), and sent each respondent a link to the questionnaire. This also allowed for follow-ups and reminders. Then to increase the number of filled in questionnaires, the respondents were called via phone and each question was asked and filled by the research team. Finally, it is via face to face interviews.

In order to make respondents comfortable and willing to fill out the questionnaire information about why the survey is conducted and how the data will be utilized, instructions for the answering were given. Furthermore, it emphasizes the confidentiality in analyzing the data and authors promise them to receive a managerial report concerning the country's results.

Public Data Collection

Then the following corporate performance measures were collected through AIDA database:

- Return on assets (ROA) last three years;
- Return on equity (ROE) last three years;
- Growth in revenue last three years;
- Growth in turnover/sales last three years.

While control variables are the following:

- Sales/Turnover (2010, 2011, 2012);
- The number of personnel (2010, 2011, 2012);
- Year of foundation/establishment ;
- Market to book value or price to book value (P/B), if available;
- Industry information (NACE coding highly preferable, or other official industry coding).

First Results

More than 50% of all respondents (value = > 3) agree that in their companies there is a satisfactory level of EC as defined by the above-mentioned variables (Table 3).

Table 3

First Results

VAR	KEY WORD	1	2	3	4	5
ENTCAP1	risk-taking	2	20	19	40	19
ENTCAP2	new ideas	7	26	30	30	7
ENTCAP3	new business	8	30	32	25	5
ENTCAP4	initiative	4	20	31	35	10
ENTCAP5	independence	5	19	32	35	9
ENTCAP6	difficult decision	10	22	38	24	6

Notes. Frequency of answers (%); Total = 100 questionnaires.

Conclusions

As stated in the introduction, this is a first conceptual paper on “IC and value creation”, aiming to:

- enlightening the overall framework of the international project and the specific role of the Italian unit;
- explaining why EC should be considered—for the purpose of our investigation, as a stand-alone element of IC;
- illustrating the research methodology of the Italian research unit;
- defining and operationalise the concept of EC.

In the first step, the Italian research team will address a deep analysis of data gathered in order to describe what the current level of EC in Italian medium-sized and large companies is. Clusters of firms by dimension, activity sector, and geographical location will be investigated.

Future research agenda considers comparison with results emerging in other countries in order to address environmental variables effects on EC, IC, and corporate performance.

Finally, next year causality relation between EC and value performance will be tested.

References

- Antoncic, B., & Hisrich, R. D. (2001). Intrapreneurship construct: Refinement and cross-cultural validation. *Journal of Business Venturing, 16*(5), 495-527.
- Antoncic, B., & Hisrich, R. D. (2003). Privatization, corporate entrepreneurship and performance: Testing a normative model. *Journal of Developmental Entrepreneurship, 8*(3), 197-218.
- Baird, I. S., & Thomas, W. (1990). What is risk anyway? Using and measuring risk in strategic management. In R. A. Bettis, & H. Thomas (Eds.), *Risk, strategy, and management* (pp. 21-52). Greenwich: JAI Press.
- Barrett, H., Balloun, J. L., & Weinstein, A. (2000). Marketing mix factors as moderators of the corporate entrepreneurship—Business performance relationship—A multistage, multivariate analysis. *Journal of Marketing Theory and Practice, 8*(2), 50-63.
- Bateman, T. S., & Crant, J. M. (1993). The proactive component of organizational behavior: A measure and correlates. *Journal of Organizational Behavior, 14*(2), 103-118.
- Birch, D. (1979). *The job generation process. Mit program on neighborhood and regional change*. Cambridge: MIT press.
- Bontis, N. (1998). Intellectual capital: An exploratory study that develops measures and models. *Management Decision, 36*(2), 63-75.
- Calantone, R. J., Çavuşgil, S. T., & Zhao, Y. (2002). Learning orientation, firm innovation capability, and business performance. *Industrial Marketing Management, 31*, 515-524.
- Covin, J. G., & Slevin, D. P. (1989). Strategic management of small firms in hostile and benign environments. *Strategic Management Journal, 10*(1), 75-87.
- Davidson, H. (1987). *Offensive marketing: How to make your competitors followers*. London: Penguin.
- Dess, G. G., Lumpkin, G. T., & Covin, J. G. (1997). Entrepreneurial strategy making and firm performance: Test of contingency and configurational models. *Strategic Management Journal, 18*(9), 677-695.
- Dickson, P. R., & Giglierano, J. J. (1986). Missing the boat and sinking the boat: A conceptual model of entrepreneurial risk. *Journal of Marketing, 50*, 58-70.
- Dzinkowski, R. (2000). The measurement and management of intellectual capital: An introduction. *Management Accounting, 78*(2), 32-36.
- Edvinsson, L., & Malone, M. S. (1997). *Intellectual capital*. London: Piatkus.
- Eisenhardt, K. M. (1989). Making fast strategic decisions in high-velocity environments. *Academy of Management Journal, 27*, 299-343.
- Ellis, R. J., & Taylor, N. T. (1987). Specifying entrepreneurship. In N. C. Churchill, J. A. Hornaday, B. A. Kirchoff, O. J. Krasner, & K. H. Vesper (Eds.), *Frontiers of entrepreneurship research* (pp. 527-541). Wellesley: Babson College.
- Engstrom, T. E. J., Westnes, P., & Westnes, S. (2003). Evaluating intellectual capital in the hotel industry. *Journal of Intellectual Capital, 4*(3), 287-303.

- Gartner, W. B., Bird, B. J., & Starr, J. A. (1991). Acting as if: Differentiating entrepreneurship from organizational behavior. *Entrepreneurship Theory and Practice*, 16(3), 13-31.
- Gartner, W. B. (1988). "Who is an entrepreneur?" is the wrong question. *American Journal of Small Business*, 12(4), 11-32.
- Gartner, W. B. (1990). What are we talking about when we talk about entrepreneurship? *Journal of Business Venturing*, 5, 15-28.
- Goosen, C. J., De Coning, T. J., & Smit, E. V. D. M. (2002). Corporate entrepreneurship and financial performance: The role of management. *South African Journal of Business Management*, 33(4), 21-27.
- Grewal, R., & Tansuhaj, P. (2001). Building organizational capabilities for managing economic crisis: The role of market orientation and strategic flexibility. *Journal of Marketing*, 65, 67-80.
- Guth, W. D., & Ginsberg, A. (1990). Corporate entrepreneurship. *Strategic Management Journal*, 11(5), 5-15.
- Guthrie, J. (2001). The management, measurement and the reporting of intellectual capital. *Journal of Intellectual Capital*, 2(1), 27-41.
- Hamel, G., & Prahalad, C. K. (1991). Corporate imagination and expeditionary marketing. *Harvard Business Review*, 69, 81-92.
- Han, J., Kim, N., & Srivastava, R. (1998). Market orientation and organizational performance: Is innovation a missing link? *Journal of Marketing*, 62, 30-45.
- Heavey, C., Simsek, Z., Roche, F., & Kelly, A. (2009). Decision comprehensiveness and corporate entrepreneurship: The moderating role of managerial uncertainty preferences and environmental dynamism. *Journal of Management Studies*, 46(8), 1289-1314.
- Hughes, M., & Morgan, R. E. (2007). Deconstructing the relationship between entrepreneurial orientation and business performance at the embryonic stage of firm growth. *Industrial Market Management*, 36, 651-661.
- Hult, G. T. M., Hurley, R. F., & Knight, G. A. (2004). Innovativeness: Its antecedents and impact on business performance. *Industrial Marketing Management*, 33, 429-438.
- Hurley, R. F., & Hult, G. T. M. (1998). Innovation, market orientation, and organizational learning: An integration and empirical examination. *Journal of Marketing*, 62, 42-54.
- Ireland, R. D., Covin, J. G., & Kuratko, D. F. (2009). Conceptualizing corporate entrepreneurship strategy. *Entrepreneurship Theory and Practice*, 33(1), 19-46.
- Kianto, A. (2007). What do we really mean by dynamic intellectual capital? *International Journal of Learning and Intellectual Capital*, 4(4), 342-356.
- Kianto, A. (2008). Development and validation of a survey instrument for measuring organizational renewal capability. *International Journal of Technology Management*, 42(1), 69-88.
- Kianto, A., Ritala, P., Inkinen, H., & Vanhala, M. (2013). The interaction of intellectual capital stocks and knowledge management practices in organizational value creation. Proceedings from *8th International Forum on Knowledge Asset Dynamics—IFKAD 2013*, Zagreb.
- Learned, K. E. (1992). What happened before the organization? A model of organizational formation. *Entrepreneurship Theory and Practice*, 17(1), 39-48.
- Lumpkin, G. T., & Dess, G. (1996). Clarifying the entrepreneurial orientation construct and linking it to performance. *Academy of Management Review*, 21, 135-172.
- McGregor, J., Tweed, D., & Pech, R. (2004). Human capital in the new economy: Devil's bargain? *Journal of Intellectual Capital*, 5(1), 153-164.
- Miller, D. (1983). The correlates of entrepreneurship in three types of firms. *Management Science*, 29(7), 770-791.
- Miller, D., & Friesen, P. H. (1978). Archetypes of strategy formulation. *Management Science*, 24, 921-933.
- Narayanan, V. K., Yang, Y., & Zahra, S. (2009). Corporate venturing and value creation: A review and synthesis. *Research Policy*, 38(1), 58-76.
- Pinchot, G. (1985). *Intrapreneuring*. New York: Harper & Row.
- Schumpeter, J. A. (1934). *The theory of economic development*. Cambridge: Harvard University Press.
- Sharma, P., & Chrisman, S. J. J. (1999). Toward a reconciliation of the definitional issues in the field of corporate entrepreneurship. In A. Cuervo, D. Ribeiro, & S. Roig (Eds.), *Entrepreneurship: Concepts, theory and perspective* (pp. 83-103). Berlin: Springer-Verlag.
- Slater, S. F., & Narver, J. C. (1995). Market orientation and the learning organization. *Journal of Marketing*, 59, 63-74.
- Stovel, M., & Bontis, N. (2002). Voluntary turnover: Knowledge management—Friend or foe? *Journal of Intellectual Capital*, 3(3), 303-322.
- Teece, D. J. (2000). *Managing intellectual capital*. Oxford: Oxford University Press.

- Thornberry, N. (2001). Corporate entrepreneurship: Antidote or oxymoron. *European Management Journal*, 19(5), 526-533.
- Vesper, K. H. (1984). *Three faces of corporate entrepreneurship: A pilot study* (Frontiers of Entrepreneurship Research, Babson College, Boston, MA, pp. 294-320).
- Wiklund, J., & Shepherd, D. (2003). Knowledge-based resources, entrepreneurial orientation, and the performance of small and medium-sized businesses. *Strategic Management Journal*, 24, 1307-1314.
- Yiu, D. W., & Lau, C. M. (2008). Corporate entrepreneurship as resource capital configuration in emerging market firm. *Entrepreneurship Theory and Practice*, 32(1), 37-57.
- Zahra, S. A. (1996). Governance, ownership and corporate entrepreneurship: The moderating impact of industry technological opportunities. *Academy of Management Journal*, 39(6), 1713-1735.

Healthy Business Environment According to the General Theory of Sustainable Development

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The article continues thinking about prospective of human society. Is the healthy business environment a fiction or a real opportunity? How far-reaching are the roots of the future natural processes of changes? How to work with the current global economic models? Can the current European integration process be considered as natural? Is a weak state a new opportunity for a future strong economy? What is the historical essence of the liberal thought? Why the current economic models are not permanent, why are they not sustainable, and why are they not developing for the basic quantum, which is the man as an individual? Can also the basic quantum be integration units as family, society, company, municipality, region, country, or EU, etc.? Qualified answers to the questions can be seen in a theoretical context of the General Theory of the Sustainable Development (GTSD), too. Theoretical trinity of GTSD is based on three theoretical pillars: GPT (Gravitation Polarity Theory), QET (Quantum Economy Theory), and BIT (Big Integration Theory). They can be considered as relevant theoretical basics for historical, current, and future sustainable development process. The healthy business environment is based on the healing of man. In GTSD, businessman and man gain a new source of knowledge, a new natural relationship, and a new content. This is a responsibility towards the customer and towards the partner in business. Businessman's profit speaks about a new business in natural partnerships. Sustainable development without the Groove Management (second generation management) and without the fourth Reformation (with second generation of innovation) is a process that only reflects the regressive trend that takes place for more than 6000 years. Without the new content of *the Fifth Theoretical Dimension* (Consciousness) the historical mainstream of sustainable development process cannot be grasped. The biggest risk for the expected Healthy business society is a contemporary slave communism and contemporary crazy capitalism. Feasibility of business models of healthy business doing societies stands not only on adequate theoretical basis, but also on predicted cannibalism between slave communism and crazy capitalism. The biggest current risk of healthy business environment is a political arbitrariness, the desire for power, and the desire for money—corruption.

Keywords: healthy business doing society, Groove management and Stowaway management, crazy capitalism and slave communism, natural spontaneous order, consciousness as the new fifth theoretical dimension

Introduction

The current economic model can rather be compared to “crazy capitalism” and it's “Stowaway

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management". The problem is not a market economy. The problem is a foolishness that enslaved Europe after the French revolution. The problem is the current ideologies in the consciousness of man.

How do people recognize a healthy business environment from a sick business environment? This paper offers a Groove management system as a healing tool not only for the business environment. Groove management is a systemic therapy tool for any environment, for environment of man as an individual, for family, for business, for companies, for municipalities, for states, for EU, etc..

Groove management pushes a management institute in the field of art. Manager as an orchestra player composes music for his managerial activity himself.

The theoretical basis of Groove management is the General Theory of Sustainable Development (GTSD).

The function of the spiral between the environment of a crazy market and the environment of sustainable development consists of the reformation.

Reformation is a part of European history. Europe of the 21st century will be Europe of the fourth Reformation and at the same time the third Czech Reformation.

Literature Review

The theoretical bases are: works by Smith (2001), Pavlík (2001), Drucker (2001), and Friedman (1962); the general theory of relativity; quantum theory; general theory of sustainable development (Figure 1) by Moravec (2004, 2006, 2012, 2013); and "string" theory.

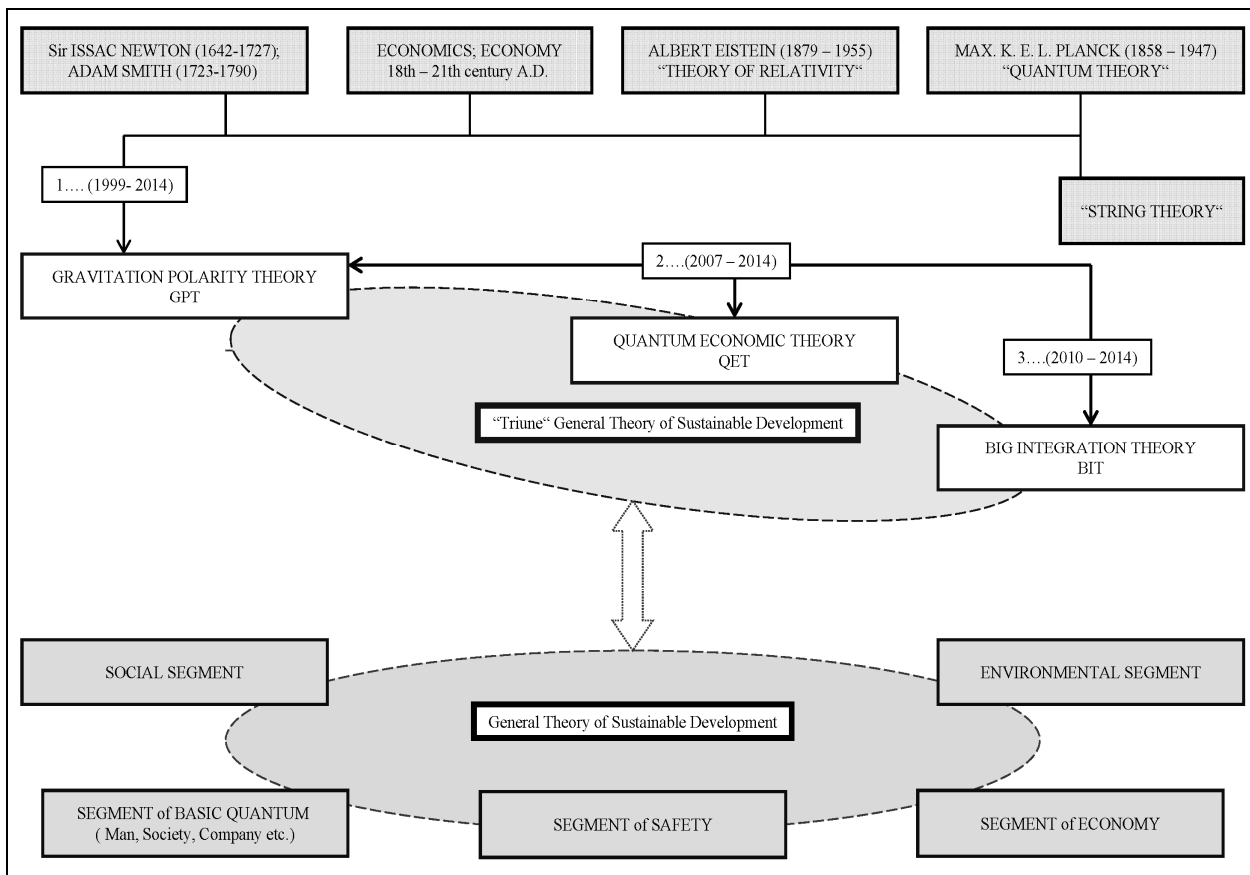


Figure 1. Sustainability on theoretical and applicable contexts.

Research

General Theory of the Sustainable Development—GTSD

A characteristic feature of the GTSD is its theoretical trinity:

- Gravitation polarity theory: the understanding of the change processes in bipolar environments and in cycles. These are closed human concepts on one hand and the order (the natural spontaneous order) on the other;
- Quantum economy theory: description of the process relations between the NSO and PSO. NSO and PSO are a one meaningful whole and institute of elementary particles Adapa;
- Big integration theory: It proves the existence regularities of the unique relationship of NSO and PSO; fifth dimension—consciousness; it opens new research area for natural, social, and human sciences.

Since the GTSD was first presented on 22 August 2012, it is essential to introduce scientific and professional community for the terminology used in GTSD: NSO—Natural Spontaneous Order, GTSD—General Theory of Sustainable Development, PO—Positive Order, POE—Positive Order Environment, PSO—Positive Spontaneous Order, NSOE—Natural Spontaneous Order Environment, PSOE—Positive Spontaneous Order Environment, MNSO—Management of Natural Spontaneous Order, GM—Groove Management (Management of Positive Spontaneous Order), CNSO—Consciousness NSO, CPSO—Consciousness PSO, and CI—Cycle Index.

Comment on Figures (2-8)

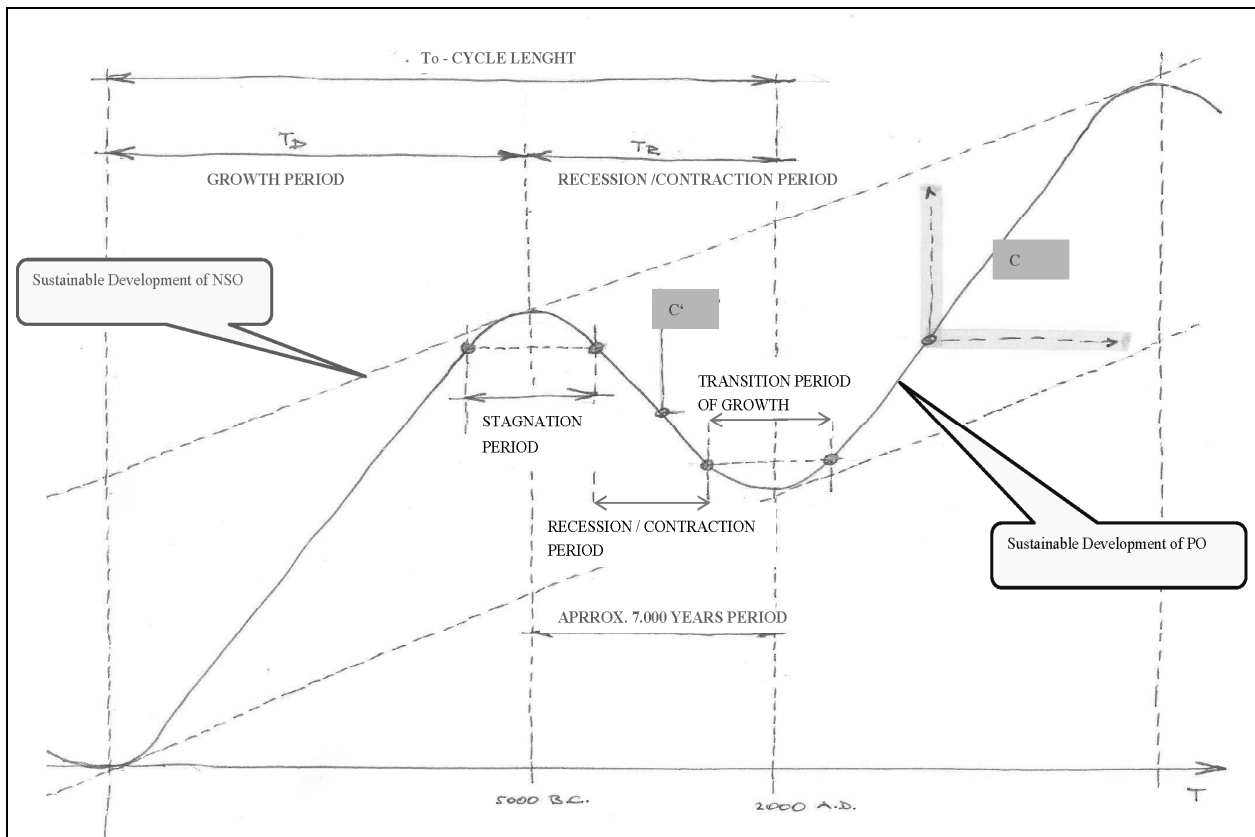


Figure 2. Gravitation Polarity Theory in a time perspective of 30,000 years model.

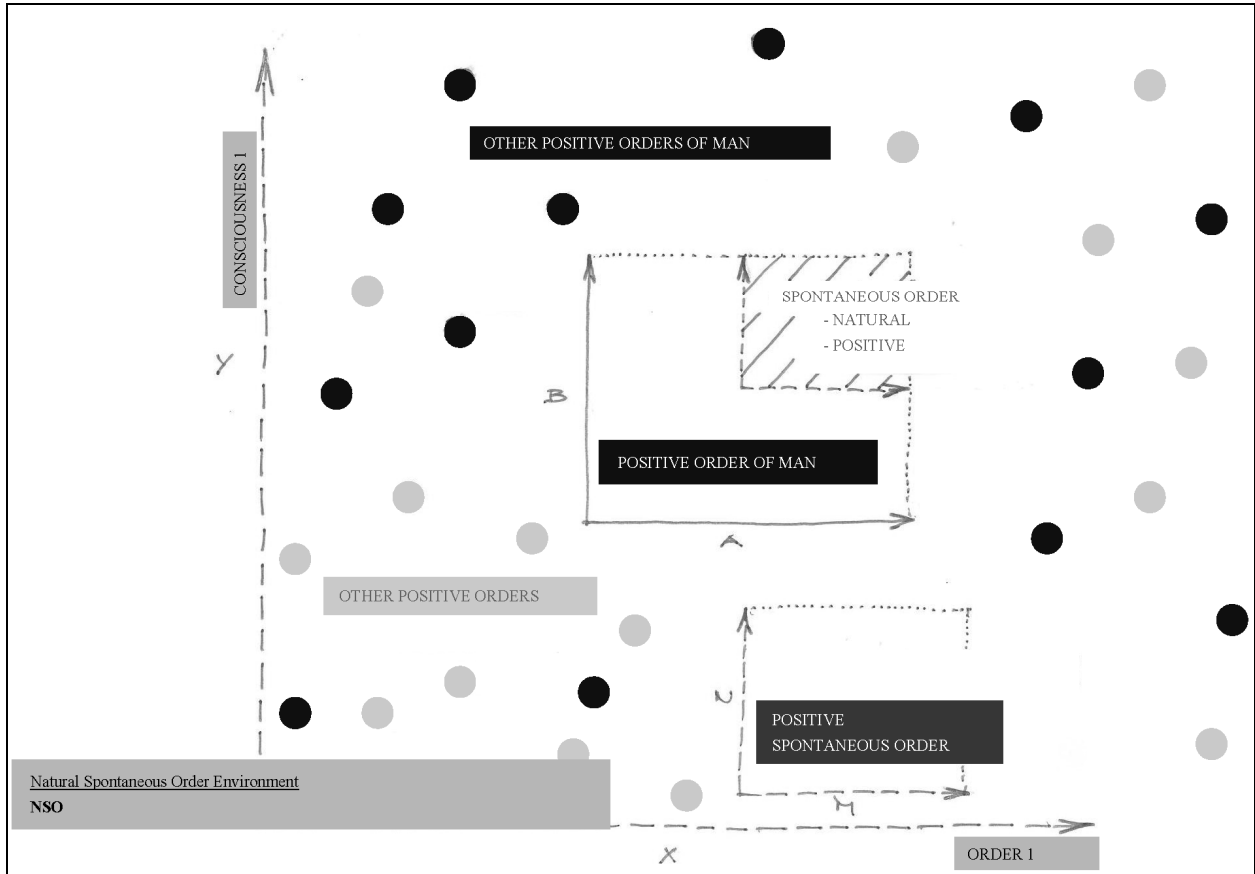


Figure 3. QET (Quantum Economy Theory)—relation between NSO and PSO.

Groove management is one of outputs GTSD. The theory of Groove management also communicates with existing Stowaway management in which the systemically moves to “second generation management” level.

From the attached figures, a scientific multi-disciplinarily is evident, for example, both general theory of sustainable development and Groove management, string theory, general theory of relativity, and quantum theory, etc.

Through the time period, Tr can be described and a grasped SD as a whole. SD is the current opportunities for individuals, families, businesses, community, state, and for global economic environment.

Figure 2 shows the interesting period 7,000 years which is characterized by degressive course. What is also interesting on this figure? It is evidently the cyclical orderliness of SD.

Uncovered question remains cycle length To of SD. It can be assumed to be the length Tr , which is about 7,000 years. The value of CI index is an expression of shares of the Td/Tr (Figure 2). CI index value of universe SD is greater than 1.

This figure shows that sustainable development is a natural NSO and PSO cyclical process and declining balance course is its natural cleansing phase. This figure shows the unsustainable assertions or interpretations about the “end of the world”, or the end of human civilization.

Figure 3 is one of many figures that deal with QET. This schema shows natural partnership between NSO and PSO. PSO is evidently measurable image of NSO. NSO and PSO group are one whole.

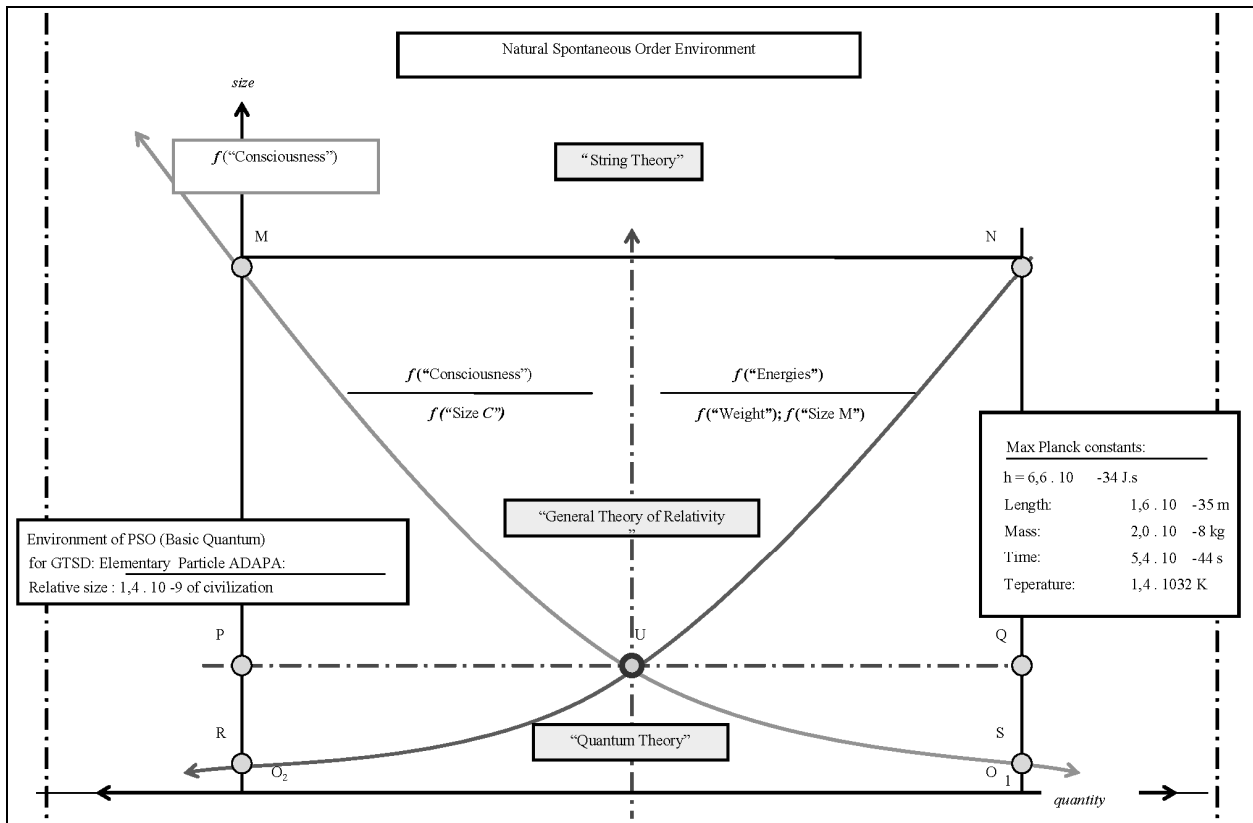


Figure 4. BIT—Fifth theoretical dimension: consciousness.

Trajectory processes PSO subjects take place in NSO space. Internal PSO processes take place in an environment with two variables: order of PSO subject and consciousness of PSO subject.

NSO and consciousness NSO are also new scholarly spaces. "String theory" begins to show us the way to the understanding of NSO environment and communication between NSO and PSO.

It can be assumed that existing metaphysical approach to relations between the NSO and PSO is already outdated.

Figure 4 moves SD within the physics. Great integration creates PSO and NSO.

Max planck PSO environment circumscribed variables such as size, weight, time, and temperature. NSO environment cannot be measured by present exact methods any way. An interesting excursion into the NSO environment is string theory. NSO environment can thus be modeled only by mathematical methods.

Through the fifth theoretical dimension which is the consciousness are general theory of relativity, quantum theory, and general theory of sustainable development (NSO and PSO) as a part of big integration theory for physics and economics.

Big Integration Theory (BIT) brings into GTSD dimension of measurability. Economics thus enters into environment of natural sciences. BIT gives a new quality to the economy, which is a quantum economics theory (QET). QET offers a new elementary particle that is Adapa into economics.

Opportunity institute extends its content about new responsibility institute. Responsibility institute makes sense to any legislative framework. As it is evident from the diagram, the basis for the functionality of this model is the NSO.

In the decision-making process, NSO can be replaced by “perfection imagination of man”. Such a model is built on selfishness and isolation. This model lacks topicality of management information. The whole dimension of responsibility is moving to the standardization of homelessness and unemployment.

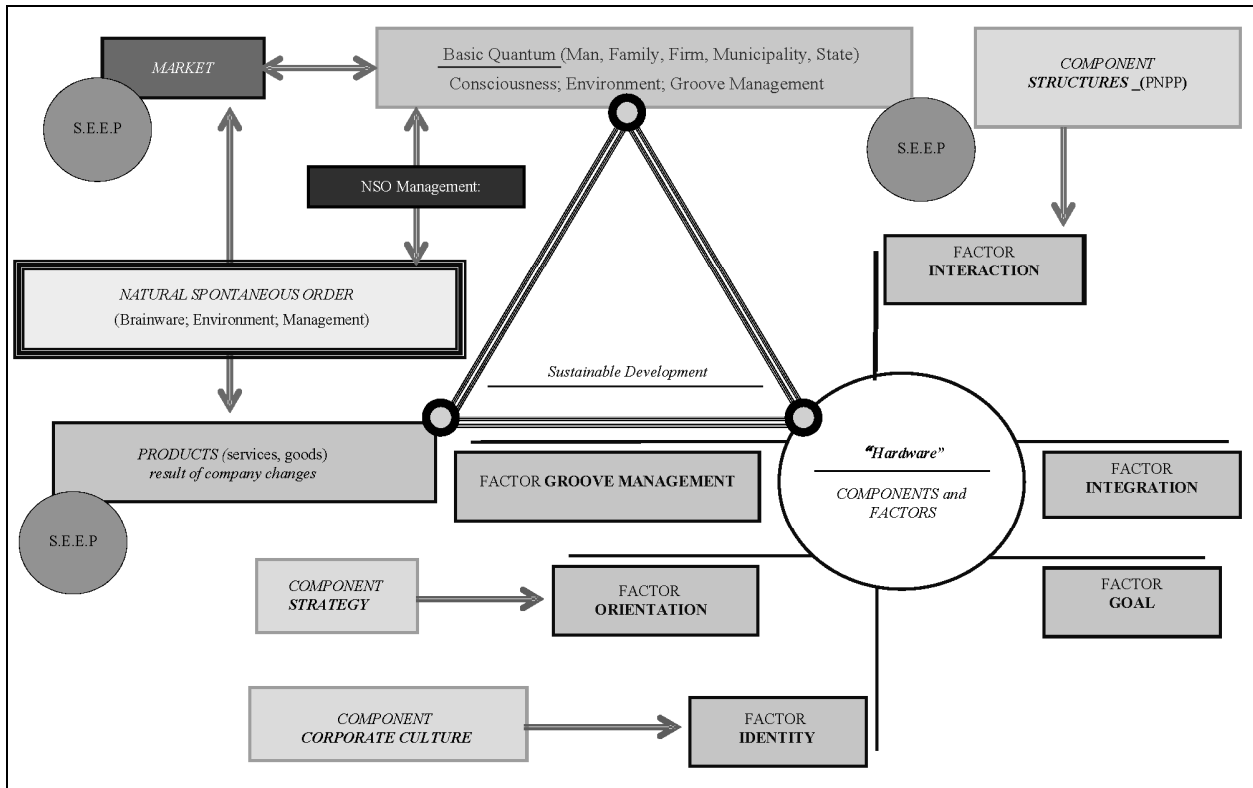


Figure 5. Groove management—Model.

Consciousness integrates currently known elementary particles into one unit. The meaningful integration unit—basic quantum—forms the elementary particle Adapa.

For quantum economics, the man like individuality is basic quantum. On this new basic quantum, processes of sustainable development are experimentally measured and proved.

Size, weight, time, and temperature of the basic quantum Adapa are relative variables, and thus not absolute, for example, the relative size of the elementary particles Adapa = 1.4×10^{-9} of civilization.

The current concept of big integration theory can be included into the segment of philosophy of physics. As it is evident from the figure, the fifth dimension follows the trajectory of the size with the expected overlap in the environment NSO.

Environment NSO obviously has the resources not yet known and therefore not utilized. The fifth dimension—consciousness is searched by GTSD, a tool by which NSO resources can be used.

Figure 5 aims management theory to a new level. A firm as basic quantum manages internal and outside processes by Groove management yet unused, because it is too young.

Groove management works with new contents of the factors and components. Factor of orientation thus gains new quality. Corporate culture gets a new ethical content. It contents new order and new responsibilities that will be built on responsibility for the company, customers, partners, etc.. The strategy receives new space which is sustainable development.

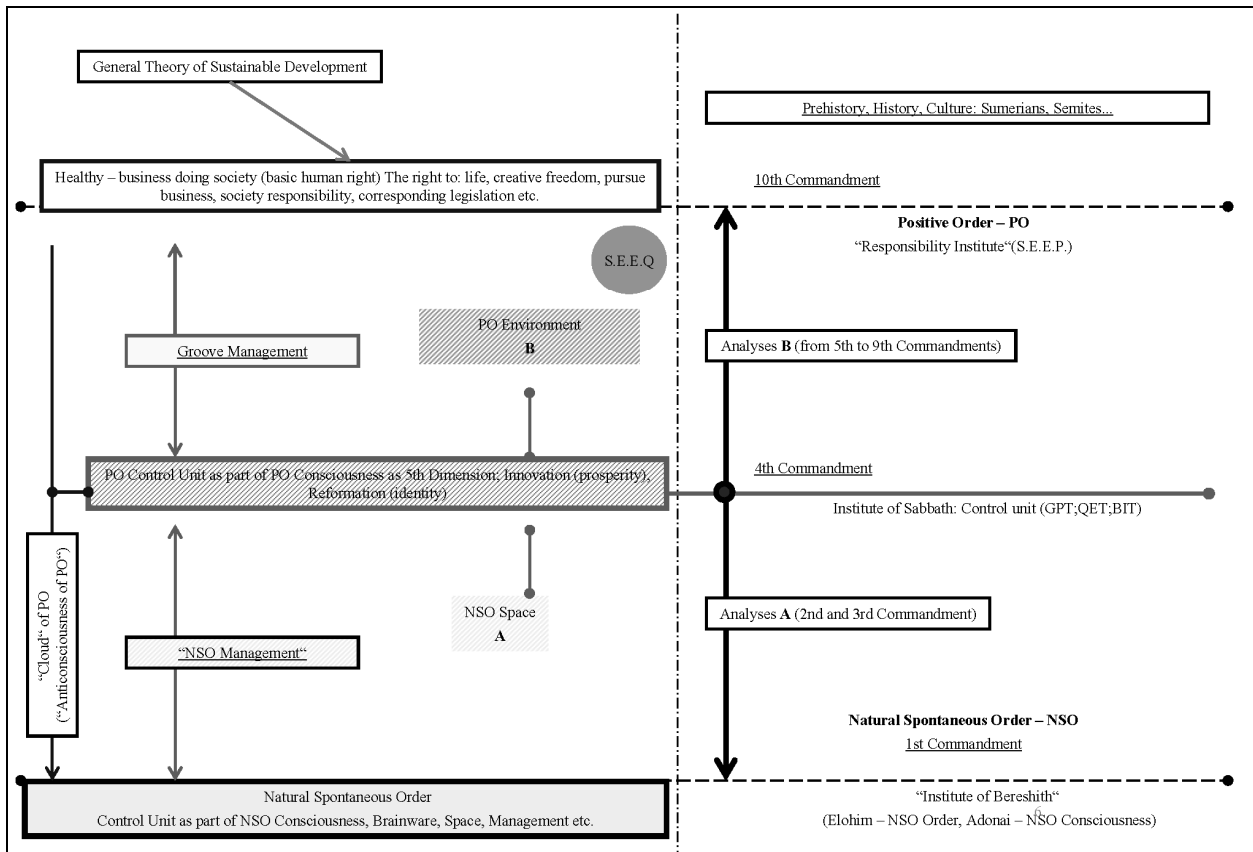


Figure 6. Groove management on historical model.

Groove management will influence the offer of services and products on the market. NSO management disposes multiple communication channels. One of these examples can be channel of information from the market. The NSO communications channels are a new study space for economics.

The basis on which Groove management is built is NSO with its consciousness institute, part of which, for example, are NSO Brainware with NSO management and NSO environment.

Figure 6 accentuates the natural partnership between NSO and PSO. In this figure, comparison of historic and prehistoric perception of communication between the NSO and PSO/PO of man with the current theoretical approach GTSD dominates.

New fifth dimension—consciousness opens up a new environment for the study of NSO and PSO environment. Similarly, the whole communication system is a part of the offered model at this point. The model is natural. GTSD in the offered model works with “cloud” (anticonsciousness) of PSO/PO of man which is a natural part of the NSO environment, too. With this new communication segment, filling the function of the database institute, it works as a BIT. Physical dimension of consciousness institute proves string theory; respectively consciousness institute gives string theory new content or new applications.

The Stowaway management is the product of systemic chaos, madness (Figure 7 and Figure 8). The initiator of this crazy period was socialism and capitalism by the 19th century. A natural part of this crazy period is slave communism, fascism, and crazy capitalism with its two world wars and a number of local wars, crises, etc.. The product of this period is, for example, a religious extremism, a political extremism, and terrorism.

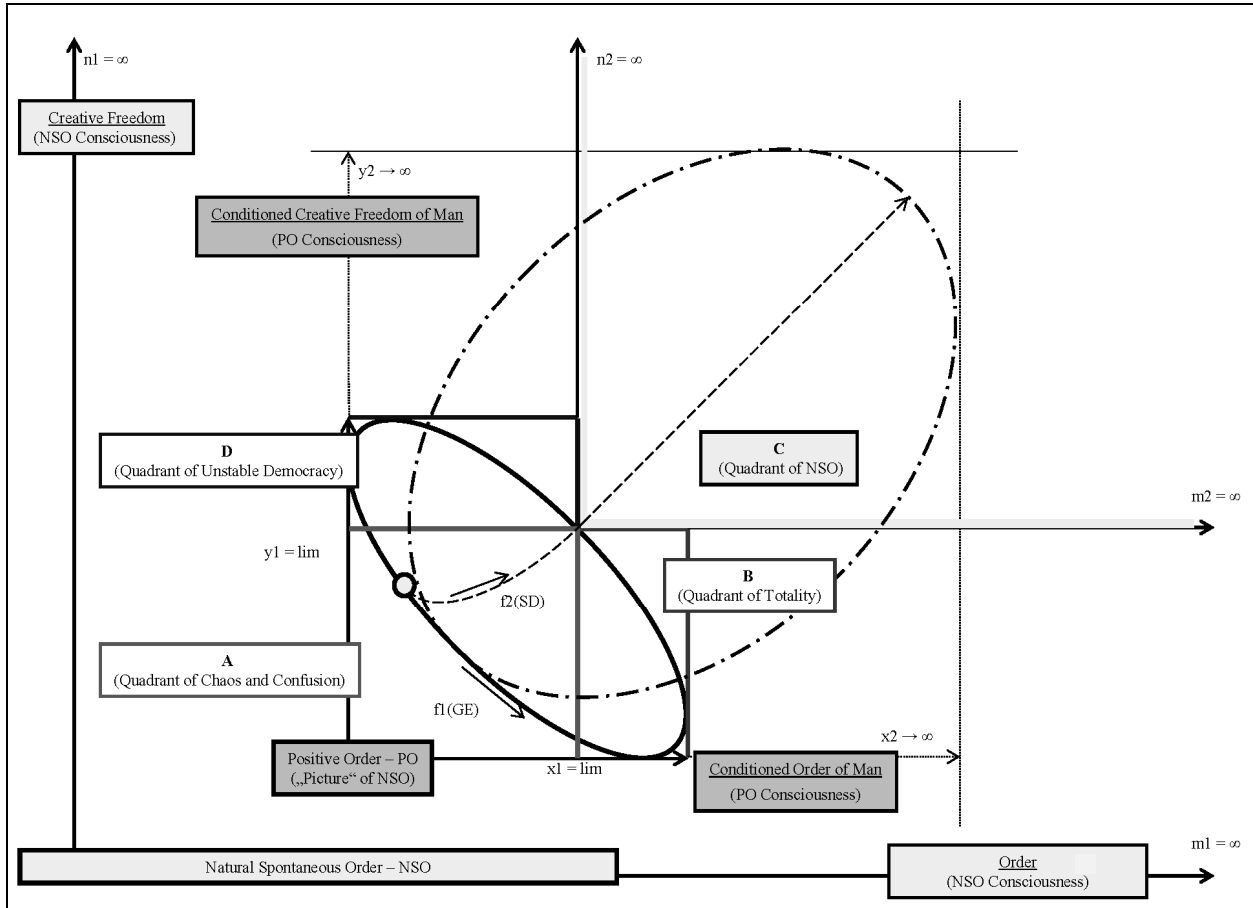


Figure 7. GPT and cyclic processes of change—PO (sustainable development model).

Figure 7 puts a cyclical process PSO of man into a particular space-time. Processes of change generally take place in an environment defined by two variables: order and consciousness. Processes of change take place in four quadrants.

Generally, along with discovered elementary particle, scientists also discover space in which discovered elementary particles are moving. This regularity is also valid for discovered new elementary particle Adapa.

Cycle of change processes circulates on a trajectory connecting the quadrants: A—chaos and craziness of human imagination quadrant, B—totality quadrant, and D—unstable democracy quadrant. Quadrant C—NSO environment is fundamentally different from other PSO quadrants. Thus this paper can speak about variables: order 1 or order 2 and the variables: consciousness 1 or consciousness 2. Consciousness 2 and order 2 are variables of PSO environment. Consciousness 1 and order 1 are variables of NSO environment.

It is true that the NSO can enter, through its management, into the PSO environments. This regularity in the relations between the NSO and other PSO environments is not applicable to reverse process.

The function $f(SDP)$ —the process of sustainable development—is a reformation process. Its meaning can be found in the final compatibility with SD process. The reformation is a creative process, destroying the regressive historical process of changes in PSO environments. Schumpeterian creative destruction is the content only for sustainable development.

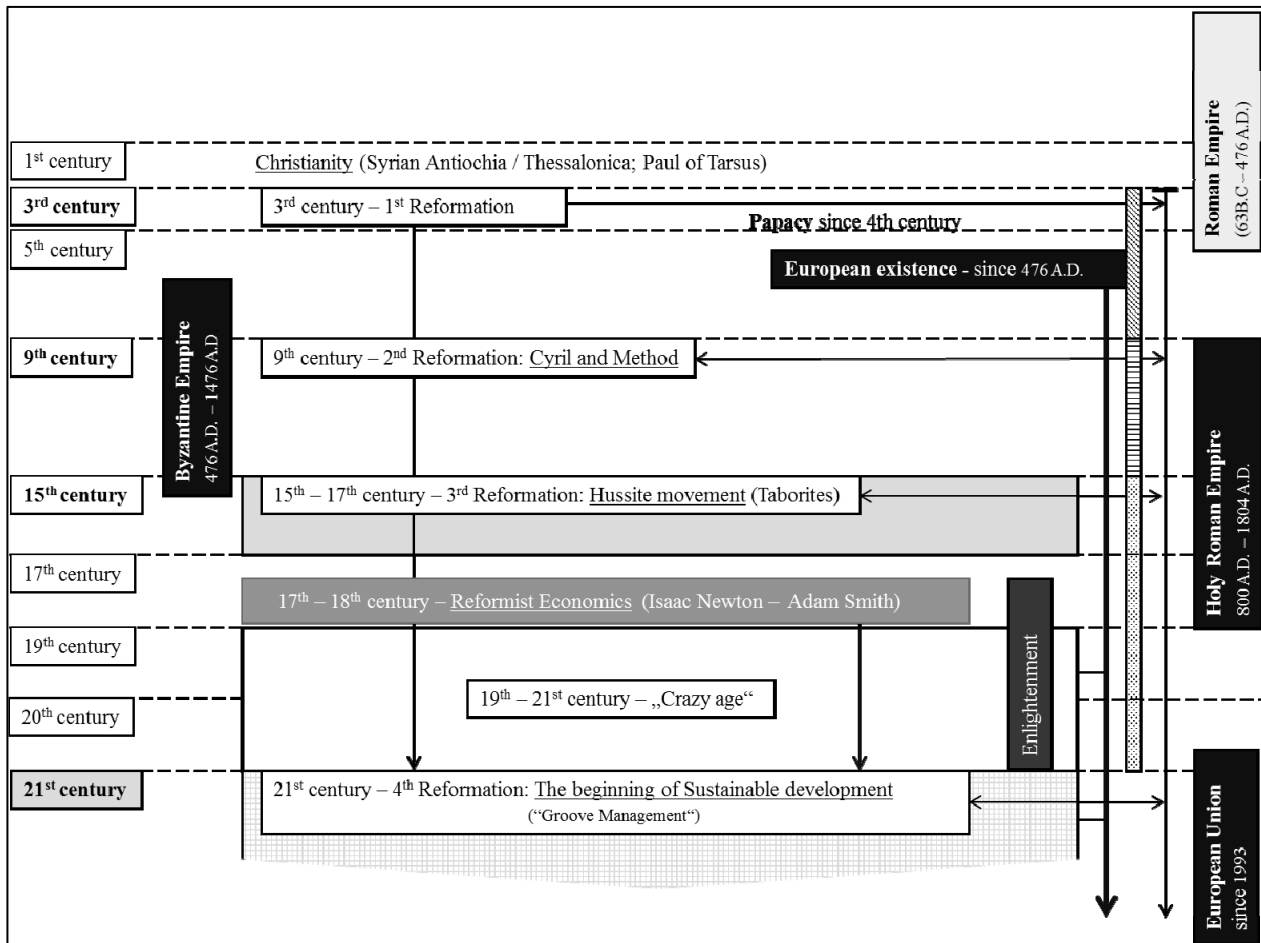


Figure 8. Europe in a historical context—European cycles.

In Figure 8, the content and meaning GTSD are confronted to an example in the Europe from the first century AD to the present time.

This period can be divided on the period of the Roman Empire and the period after the 476 A.D. as Europe of states, nations, and nationalities. The image of Europe in the cyclic processes is not yet available. It is still lacking structure model that reflects the continuity of the process of change to the period of the Roman Empire. It can be focused, after several years of study, on the history of the reformation. The reformation history has not only unique content, but it also has unique cyclical regularities.

For the past 2,000 years, three reformation periods were in Europe. The first reformation took place in the third century AD. This reformation irreplaceable liquidated the totalitarian regime of the Roman Empire. This reformation survived about 100 years. Corruption was the apparent cause of the end of the first reformation. Emperor Constantine corrupted the Silvestre Bishop of Rome (4th century A.D.). He gave him the economic power, the judicial power, the legislative power, and the executive power. Even the corruption did not save Roman Empire from extinction (467 AD).

The first one who brought Christianity to Europe, according to church tradition, was Paul from Tarsus. He was a Jewish scholar with extraordinary wisdom, with top view, with knowledge of Greek and Jewish culture, and with amazing inner creative freedom. His first stop in Europe was Macedonia (Philippi and Thessalonica).

From there (ninth century), the entire team came to Great Moravia which was led by brothers Cyril and Methodius.

The second European reformation took place in the ninth century on the territory of Great Moravia. Team of approximately 120 to 150 people led by the brothers Cyril and Methodius transformed Great Moravia territory into a modern, educated, and the competitive country. The second European reformation (in the ninth century) reduced the rose totalitarian up power of the Holy Roman Empire (Charles the Great).

The third European reformation took place in the 15th-17th century. The beginning of the third European reformation movement is generally considered to Taborites in Bohemia. The third reformation has evolved, along with the Waldensians in France and "faithful brethren" in Germany, as pan-European movement.

Although Vaclav IV and his brother Sigmund were not comparable with the figures of Charles IV, Bohemia Kingdom (15th-17th century) was nevertheless the only one freedom country in the rest of totalitarian Europe.

Economically Bohemia was booming economy. Strength of Bohemia Kingdom consisted of the weakness of their kings.

Czech reformation initiated, about 100 years later, the Protestantism in Switzerland and Germany. Protestantism also opposed the totality of the Church and the Holy Roman Empire, which was characterized by corruption. Totalitarian Holy Roman Empire of Germany ended in the inoperable.

Research Result

Twenty-first century will be the fourth age of the European reformation. The fourth reformation has a chance for its new theoretical content and the current global opportunity to become the third sustainable process of change with its predicted Healthy business doing society, not only for the European Union.

Conclusions

Groove management is an indispensable tool in the transformation process towards a healthy entrepreneurial society in these segments: social, environmental, economics, and person of man—quality of life.

Healthy business environment is a natural part of sustainable development. It is a natural product of the Civil Society.

General theory of sustainable development could be a basic for future development of science. It could be a tool for a person, community, firm, state and an EU strategy model, too.

The fourth reformation is a function of transformation process from slavery and crazy environments to the natural space of sustainable development (healthy business doing society).

The greatest risk that stands and will stand before a man (decision making institute) and a new entrepreneurial society is the Stowaway management and related sectarianism, formalism, dogmatism, and fanaticism. Those have their roots in our unnatural fascist, slave communist, and crazy capitalist history.

Groove management was also confronted with images of the future entrepreneurial society of Drucker. Conclusions were also confronted with the current processes of change in the EU and works of Schumpeter (1939, 1950, 1954).

Universities and NGO's mainly from Europe are starting to cooperate on this transformation project.

References

- Drucker, P. F. (2001). *Fungující společnost*. Praha: Management Press.
- Friedman, M. (1962). *Capitalism and freedom*. Chicago: University of Chicago Press.
- Molnár, A. (1991). *Valdenští*. Praha: Kalich.
- Moravec, A. (2004). *Ekonomie v globalizačních procesech*. Praha: MoreHouse Publishing.
- Moravec, A. (2006). *Globalizace v souvislostech*. Praha: MoreHouse Publishing.
- Moravec, A. (2012). Crazy capitalism or sustainable development? Proceedings from *First Multidisciplinary Academic Conference* in Prague, Praha.
- Moravec, A. (2013). Groove management and entrepreneurial society. Proceedings from *Mezinárodní vědecká konference, VŠE*, Praha.
- Pavlík, J. (2001). *Adam Smith a teorie spontánního řádu*. Smith, A. *Pojednání o podstatě a původu bohatství národů*. Praha: Liberální institut.
- Schumpeter, J. A. (1939). *Business cycles*. New York: McGraw Hill.
- Schumpeter, J. A. (1950). *Capitalism, socialism and democracy*. New York: Harper and Brothers.
- Schumpeter, J. A. (1954). *The theory of economic development*. Cambridge: Harvard University Press.
- Smith, A. (2001). *Bohatství národů*. Praha: Liberální institut.

The Scenario of Lean Product Development in Brazilian Auto-industry*

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The purpose of this paper is to evaluate the impact of lean product development (LPD) in the Brazilian automotive sector. A mailed-questionnaire survey was used to examine 23 questions about LPD principles and practices. The target population for the study was Brazil's largest product development and design companies. The study identified that although the automobile sector is seen as a reference in the adoption of lean practices, there is still potential for improvement by establishing partnership relations with suppliers, and with those on the other points of the chain by identifying what provides value to clients. Set-based concurrent engineering is also a practice that needs to be better developed, as well as the value stream mapping tool to identify waste and activities that add value to the product development process. There has been no previous study of this nature in Brazil that characterizes the sector and highlights its importance in relation to the global scene, providing incentives to international investors. The value of the work is in the results that allow diagnosing the lean development practices that are most used in the automotive sector. Moreover, the survey questions can be applied in other economic sectors and at companies of other sizes. The study contributed to providing a systematic view of the product development process from the perspective of people, processes, and technology, and assists companies and academics manage change.

Keywords: auto-industry, lean, product development process, practices

Introduction

Regardless of the sector in which companies operate, some problems are common including: communication

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barriers; the lack of a product development process (PDP) that is organized in a lean manner; control failures and deliveries that take more time than planned. That is, in most companies there is the poor use of or a waste of knowledge and information. One of the most successful ways of handling this problem is through the lean approach, which works constantly to reduce waste and deliver value to the client. When applied to product development, it has improved processes to make them flow better, without interruptions caused by a variability of tasks, waiting and low reliability of information. The other opportunity for improvement is at the level of product, that is, it is necessary to design something that is easy to manufacture.

The purpose of this article is to describe the diagnostic made after conducting a survey with the largest private companies in terms of income in Brazil's automotive sector. The focus was on identifying the principles and practices of the Lean approach that are being used in the product development process such as value stream mapping (VSM), voice of customer (VOC), early supplier involvement (ESI), standardization, visual management, set-based concurrent engineering (SBCE), virtual simulation, project library, and record lessons learned.

The article is organized in the following manner. The introduction contextualizes the theme and presents the research problem and the objectives. Section 2 groups the concepts of the practices verified in the survey that were the base for the preparation of the questionnaire. It also presents some relevant studies associated to the key-themes—performance indicators, lean approach, and product development process. Details are also presented of the survey methodology, and this article is derived from part of Dal Forno's doctoral thesis (2012) about the automotive industry. The author applied the survey in eight economic sectors of Brazil. The questionnaire was sent to 48 companies in the automotive industry and 22 responded, which is a rate of return of 46%. This amount does not allow generalization, but it is possible to sketch a scenario of this sector and indicate the principles and practices that are being implemented in an isolated and or systematic manner. Section 3 presents the statistical handling conducted with the software Statistica 10.0 and SPSS. The conclusions describe some of the trends for the automotive sector and perspectives for the future. At the end there are the acknowledgements and references used.

Theoretical Principles and Survey Results

The choice of the automotive sector was justified by the study given that in 2013 Brazil was the world's seventh largest vehicle producer, with this data including cars, light commercial vehicles, trucks, and buses (Table 1). The report, *The Brazilian Autoparts Industry Performance 2013*, published by Sindipeças (The Brazilian Auto Parts Manufacturers Association), shows that Brazil was in fourth place in sales (Table 2).

Figure 1 shows the Brazilian states from which companies responded to the study. São Paulo (the state with the largest economy in Brazil) had the most participants, with 11 companies. Figure 2 presents the percentage of each responding state. The responding companies include 12 auto parts manufacturers, three automobile manufacturers, three ship, plane or helicopter manufacturers, and four produce buses, tractors, or trucks.

In terms of the positions of the people responding, most are managers (36%), 32% are engineers or analysts, followed by coordinators (18%), as can be seen in Figure 3.

Table 1

Worldwide Vehicle Production (Major Producing Countries)—2002/2012

Country	2002	2008	2012
1 China	3,287	9,299	19,272
2 USA	12,280	8,694	10,329
3 Japan	10,257	11,576	9,943
4 Germany	5,469	6,046	5,649
5 South Korea	3,148	3,827	4,558
6 India	895	2,332	4,145
7 Brazil	1,792	3,216	3,343
8 Mexico	1,805	2,168	3,002
9 Thailand	585	1,394	2,483
10 Canada	2,629	2,082	2,464

Source: Sindipeças (2013).

Table 2

Worldwide Vehicle Sales (Major Countries)—2005/2012

Country	2005	2008	2012
1 China	5,758	9,381	19,306
2 USA	17,444	13,493	14,786
3 Japan	5,852	5,082	5,370
4 Brazil	1,715	2,820	3,802
5 India	1,440	1,983	3,577
6 Germany	3,615	3,425	3,394
7 Russia	1,807	3,222	3,142
8 United Kingdom	2,828	2,485	2,334
9 France	2,598	2,615	2,332
10 Canada	1,630	1,674	1,716

Source: Sindipeças (2013).

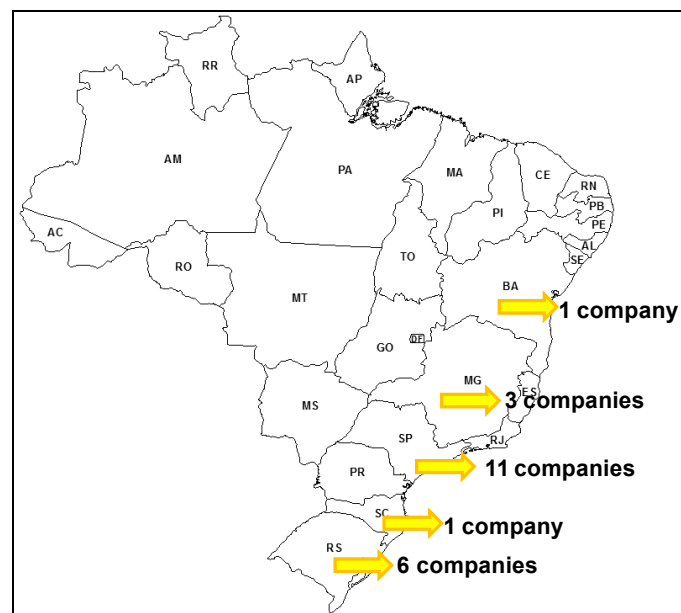


Figure 1. Location of the companies that responded to the study.

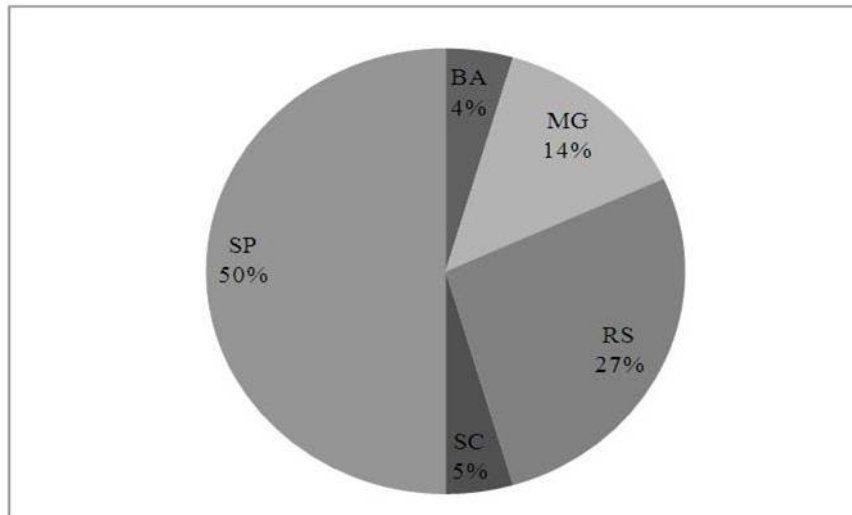


Figure 2. Brazilian states that responded to the automotive industry survey.

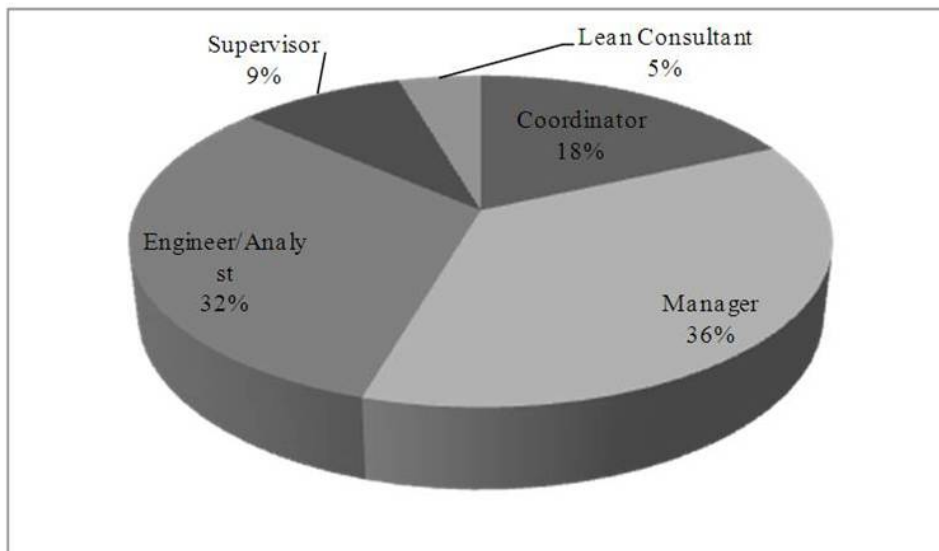


Figure 3. Positions of the respondents.

In relation to the types of projects, Morgan and Liker (2006) used the classifications of radical or breakthrough projects; platform or next generation projects; and incremental or derived projects. In the case of Brazil, there is a fourth category called a follow-source project, which are those that come from the head office or from clients and that are suitable to the local reality. Below is a description of each one of these types of projects, from the most to least complex:

- radical projects (breakthrough)—significant changes occur when a new category or family of products is developed that requires new technologies or materials and in most cases an innovative manufacturing process;
- platform or next-generation projects—significant alterations are involved, but without the use of new technologies or materials, they provide a new system of solutions for clients and have a common structure among the various models in a family;
- incremental or derived projects—the modifications are small and are focused on cost reduction, for example, with incremental innovations in products and processes;

- follow-source projects—these come from other units of the group, a client or contracted technology, they do not require significant change although the local plant adapts them to local conditions, involving the validation of the process, equipment, tools, production of the pilot lot and the initiation of production.

The survey used two questions to verify these issues. One of them found that 77% of the products are developed in Brazil and 23% come from abroad. Figure 4 shows the types of projects of the responding companies, recognizing that more than one option was indicated by the respondents. It is seen that the most common projects were of the radical (38%) and incremental (34%) variety.

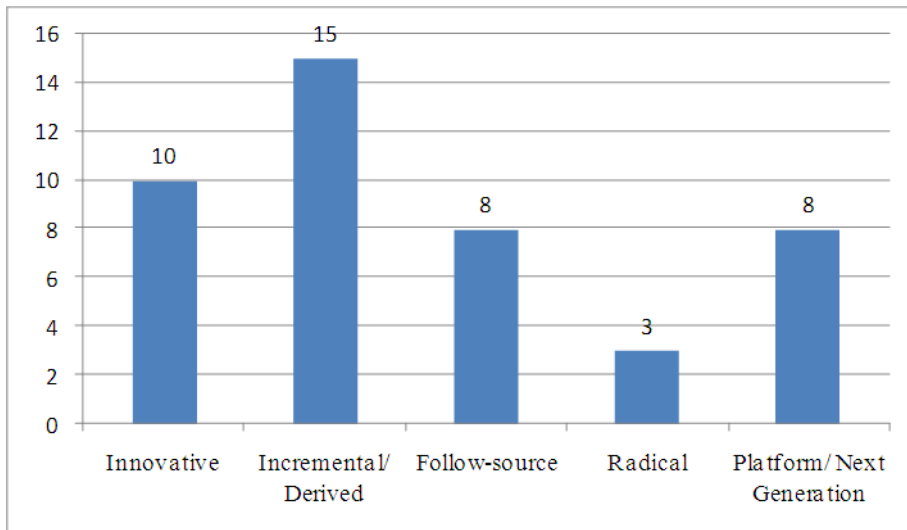


Figure 4. Types of projects.

Haponava and Al-Jibouri (2009) used indicators for the pre project control in the construction industry. So they chose to implement large projects in the Netherlands and found that the most important sub-processes are time management and cost; risk management and project control; definition of customer requirements, start-up project; scope design, stakeholder engagement, planning the pre project, planning of resources and generation of alternative ideas.

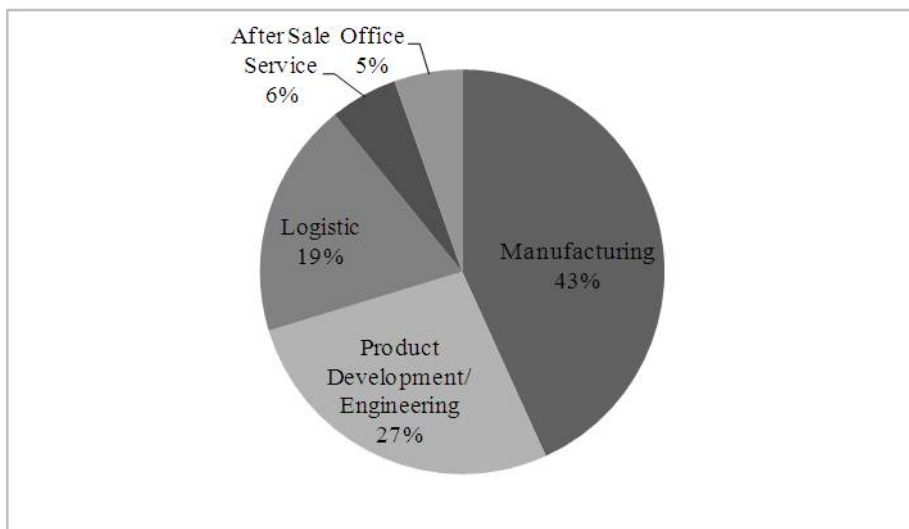


Figure 5. Processes with lean approach.

To determine if the companies are familiar with lean terminology, they were asked directly if they use this approach. The responses were that 82% consider themselves lean and 18% do not. Detailing the question, Figure 5 shows that most of the companies began implementing lean practices to manufacturing (43%), followed by product development/engineering (27%) and logistics (19%).

One of the initial tools for the implementation of a lean approach is value stream mapping. In summary, this process aims to develop a portrait of the current state to visualize some forms of waste and calculate lead time. Afterwards, the improvements are planned in a future map and action plan (Rother & Shook, 1999; Cheng, Chen, & Mao, 2010; Badurdeen, Wijekoon, & Marksberry, 2011; Haponava & Al-Jibouri, 2009). Chiang (2009) added that information about cost, time of activities, resources, and other important data can be added to the VSM to plan and control the PDP projects. The survey found that 45% use VSM and 55% said they do not use this tool.

The standardization of processes is mentioned in two of the 13 principles presented by Morgan and Liker (2006) from Toyota's lean development. The process subsystem calls for "using standardization to reduce variation, create flexibility and predictable results" and the technology subsystem calls for "using powerful tools for standardization and organizational learning". In addition, standardization is a practice for reducing variability, whether of tasks or of arrival of inter-related demand. The first case (variability of task) refers to the differences in the methods and in the duration of the specific tasks found in most product development. The variability of the arrival of related demand refers to the time difference between the deadline set for the arrival of the task at the work station and its actual arrival. This difference is generally caused by the first type of variation and by its capacity restrictions (Morgan & Liker, 2006).

A standardized development process refers to the standardization of common tasks, the sequence of tasks and the duration of tasks, which will make communication more precise and improve understanding among the functional areas (Koh, Bayraktar, Tatoglu, & Zaim, 2007; Mottonen, Belt, Harkonen, & Lin, 2009; Zelbst, Green, Abshire, & Sower, 2010; Shamsuzzoha, Kyllönen, & Helo, 2009). In the survey, 95% of the companies say that they have standardized PDP.

For companies that use a lean approach, the most important factor is to be focused on client satisfaction; for those that do not use the approach, increasing market share and maximizing profits are the most important factors (Meybodi, 2009). Some techniques used to capture the voice of customer (VOC) are Kano, QFD, Delphi, and Pareto, which various authors maintain are important for categorizing client needs (Zokaei & Hines, 2007; Ahmed & Amagoh, 2010; Huang & Tan, 2007; Boyle & Scherrer-Rathje, 2009; Chi, Kilduff, & Gargeya, 2009). In 400 works which found VOC, few apply the tool correctly from the perspective of adding value to the client (Teehan & Tucker, 2010). In the survey, 68% of the companies say that they use VOC techniques.

In lean development, the intention is to maintain few suppliers and involve them from the beginning of development and thus establish a long-term partnership. The benefits include decreasing risk, reducing costs and leadtime, as well as joint development and establishment of joint goals (Zelbst et al., 2010; Koh et al., 2007; Cheng et al., 2010; Park, Shin, & Chang, 2010). Thus, it is strategic to involve the supplier from the beginning of the process, and 95% of the respondents said that they conduct this practice. According to Brookfield, Liu and Macduffie (2008), co-innovation with suppliers reduces time-to-market by up to 60%. Figure 6 shows that over the past five years, most of the companies evaluated (41%) followed the practice of reducing the number of suppliers; 32% have maintained the same number and at 23% of the companies the quantity increased over the past five years.

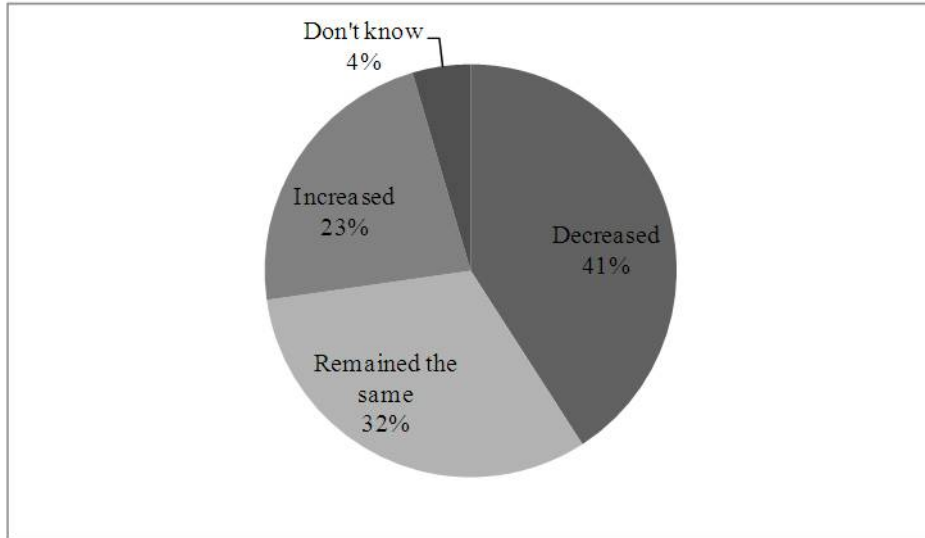


Figure 6. Trend in relation to number of suppliers.

The lean approach affirms that visual management helps control deadlines, performance measurement and does not necessarily require software or high investments. According to Smadi (2009) and Singh, Garg, and Sharma (2009), making problems visible is the first step for applying Kaizen, because only in this way, it is possible to improve and minimize similar problems confronted in the future. It is difficult to develop an understanding of this issue based only on the question in the survey that focused on this subject, and deeper study is needed to indicate if the visual method used functions or not and if those involved are satisfied. Thus, Figure 7 indicated that, as expected, the software MsProject is the most used (49%), followed by Excel (26%) and visual chart (11%). Respondents to this question could mark more than one response.

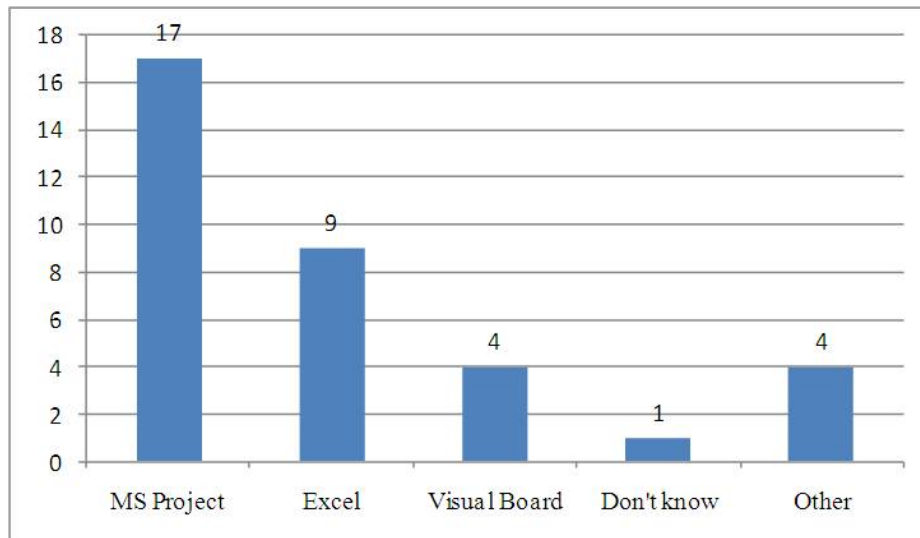


Figure 7. Software used in project management.

Traditionally, development is treated by functional areas, although Rozenfeld et al. (2006) maintained that the roles of those involved in PDP depend on the organizational structure of each project and or company. These authors suggest that those involved include board members, operations managers, those responsible for

engineering, project management, specialists, partners, the strategic product planning team, the development team, the evaluation team, and the product accompaniment team. In a simple manner, the survey question sought to identify if there is integration between the areas and simultaneous engineering. With this purpose, Rozenfeld et al. (2006), upon developing a reference model for PDP, suggested that nine areas of knowledge participate:

- project management—definition of scope, time frames, human resources, their qualification and the control of activities;
- environment—sustainability, reuse, remanufacturing, recycling, reuse of material, disposal;
- marketing—relationship with the market, such as surveying needs, the insertion and evaluation of products in the market, technological vigilance;
- product engineering—solutions of style, material, functions, structure, and behavior of product, technology integration, etc.;
- process engineering—processes and manufacturing and assembly operations, specification and design of manufacturing resources;
- production—activities that consider the manufacturing of products under development;
- supplies—involves relationships with partners, suppliers, clients on the supply chain and a logistics project to make production viable;
- quality—constant management of the requirements of products, and also involves accompaniment of quality of the business processes of the business resulting from product development and the quality of products in the market after their release;
- costs—definitions of price and target-costs, preparation of a budget, viability study and constant monitoring of this information.

In Figure 8, this paper found that in 86% of the companies responding, there are at least five areas involved.

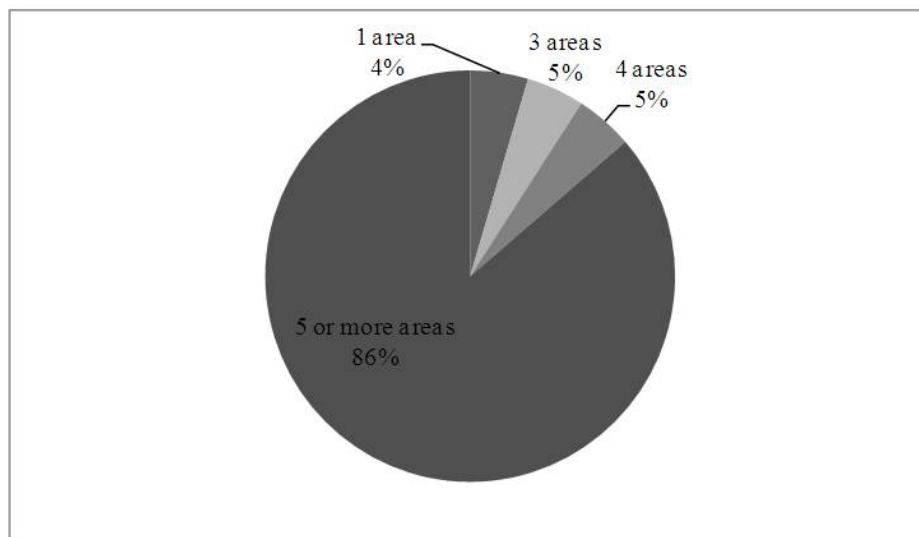


Figure 8. Number of functional areas involved in PDP.

Concurrent engineering is a systematic approach to the integrated and parallel development of the design of a product and the related processes, including manufacturing and support. This approach seeks to have all those involved in PDP consider from the beginning all the project elements from the beginning. In sum, SBCE is developed from concurrent engineering, which emphasizes the development of optional solutions (Rozenfeld

et al., 2006; Haponava & Al-Jibouri, 2009).

Through practical experience and the literature, it is understood that SBCE is a junction of all the other lean elements, because its realization requires modularity, integration, technical competence of the staff, the involvement of suppliers at the beginning of the PDP and so on. Thus, this practice was verified by the survey in a very superficial manner, and only the number of alternatives tested was explored (Figure 9).

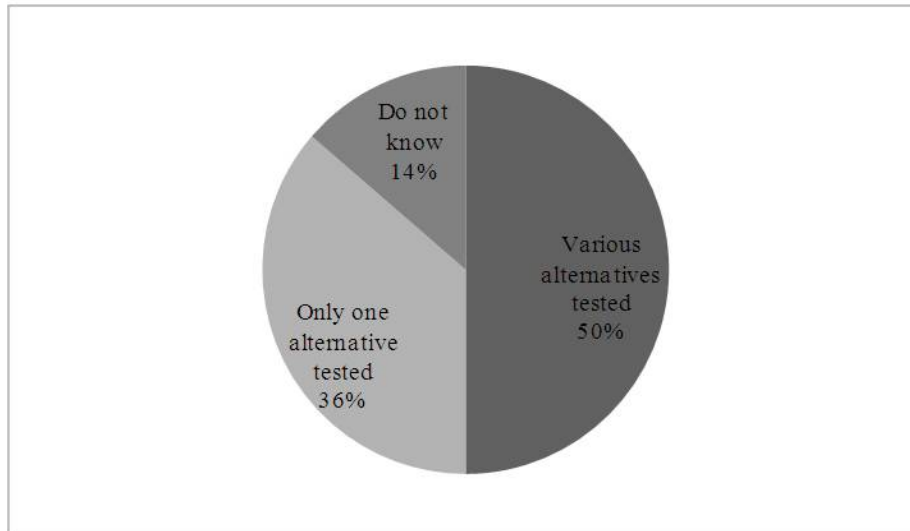


Figure 9. Verification of project alternatives tested.

Considering the first lean principle of Womack and Jones (1996) which specifies value from the client's perspective, within an organization, this involves the practice of valuing the internal client during the flow of information of the PDP. Eighty-two percent of the survey respondents say that they conduct this practice.

Accompanying the project with a certain frequency allows the reactions and changes needed to be conducted on time. In this sense, Japanese culture has the habit of conducting fast daily meetings to establish goals and revise schedules. These meetings, called *Kentou*, are conducted standing up and last 15 minutes. In Brazil, it was found that 77% conduct weekly meetings to evaluate project performance (see Figure 10). Given that this paper is adapted from the thesis by Dal Forno (2012) in which the survey was detailed and applied later in 12 case studies, the length of an innovative project for the automotive sector varied from 13-19 months. Thus, weekly accompaniment proved to be effective for controlling the scope.

The project library practice refers to the learning process and the habit of recording lessons learned, whether physically or virtually, to facilitate the reuse of knowledge and thus avoid the waste of reinvention. In the survey, there were two similar and complementary questions about this topic. One asked if experiences from past projects are reused. But this knowledge is often not registered, and is lost when employees leave a company. In this way, 95% of the respondents affirm that in practice there is a reuse of past experiences, nevertheless, registration takes place at 73% of them.

Conducting virtual simulation through digital modeling (CAD/CAM and other modeling software) is important for predicting errors and interacting with the process, thus reducing costs of physical prototypes and time (Saliba, Zarg, & Borg, 2010; Grant & Banomyong, 2010). According to Shamsuzzoha et al. (2009), virtual simulation can take place to integrate supplier and manufacturer, increase the value perceived by the client, and be on target in customized development. Software that allows a client to chose a product (customize) and

capture value in emotional design is a tool that assists collaboration.

Virtual prototyping aligned to DFM/DFA and CAD/CAPP is useful for evaluating the characteristics of a product, material consumption, geometric form, accuracy, tolerance, and qualitative and quantitative parameters (Bargelis, Kuosmanen, & Stasiskis, 2009). Among the respondents to the survey, 86% affirm that they conduct the practice of virtual simulation.

Kaizen signifies a constant search for improvement. This practice is important for determining if there is a concern for continuously improving a process, which was confirmed by the fact that 91% of the responses were affirmative.

Bilalis, Alvizos, Tsironis, and Wassenhove (2007) mentioned that some indicators of knowledge management are the existence of initiatives of improvement processes, a formal benchmarking process to make comparison with other companies, and the documentation of the performance of past initiatives and of the amount of hours invested in training per employee. When analyzing the latter in the survey, 95% of the responding companies said they had invested in formal training in the previous year (the survey was issued in 2011).

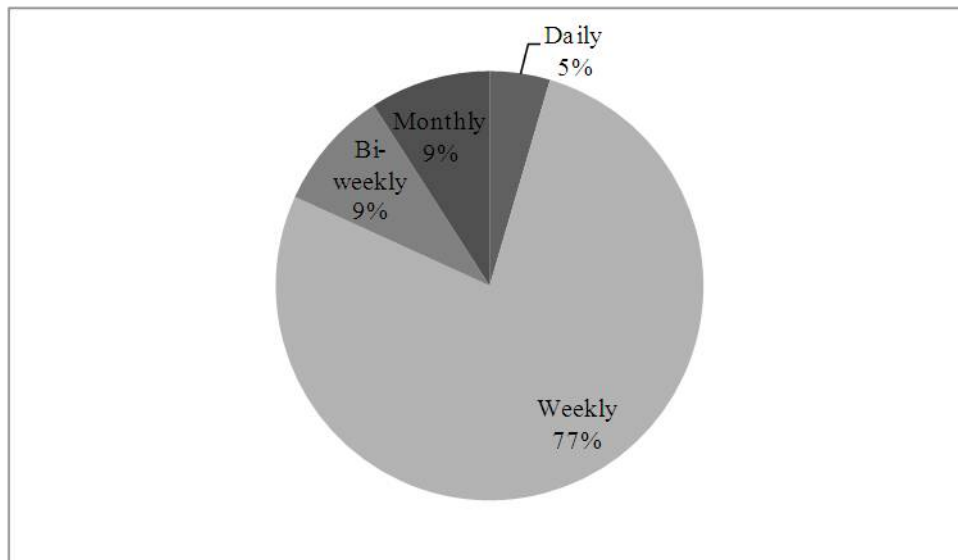


Figure 10. Frequency of reviewing the project.

Statistical Analysis and Evaluation of the Survey

Cronbach's alpha was used to evaluate the internal coherence of the research tool. According to Corrar, Paulo, and Dias Filho (2009), an analysis of reliability indicates the relations among the individual items on a given scale.

Cronbach's Alpha

Cronbach's Alpha is a model of internal consistency based on the mean correlations of the items. The reliability is the degree to which a scale produces consistent results among repeated or equivalent measures of a single object or person, revealing the absence of random error (Corrar et al., 2009).

The amount assumed by the Alpha is between 0 and 1. According to Hair, Anderson, Tatham, and Black (2006), amounts greater than 0.7 are considered as good results, with values up to 0.6 accepted in exploratory research. Malhotra (2005) maintained that the value of the Alpha should be between 0.6 and 1. This study used

the amounts suggested by Malhotra (2005). Onoyama (2011) and Schuch (2009) also affirmed that the values should be between 0.6 and 1. Table 3 shows a compilation of the questions conducted in Excel. There are intervals between the numbers of the companies, because the automotive sector is only a portion of the survey conducted in other sectors (Dal Forno, 2012).

The software used to calculate Cronbach's alpha was Statistica 10.0 and SPSS, with the following steps:

- (1) Matrix of correlations;
- (2) Dispersion graphics;
- (3) Average and standard deviation of all the variables;
- (4) Histogram;
- (5) Box & Whisper Plot—shows the central trend (mean, interval and quartile) with information to confirm if the distribution of the variables is symmetrical;
- (6) Reliability results—total final results of Cronbach's alpha and for each variable.

Table 3

Compilation of the Scores of the Questions.

Company	Questions																			
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1	5	1	1	5	1	5	2	5	5	1	1	1	5	5	5	2	5	5	5	1
2	5	1	5	5	0	5	2	5	5	1	5	1	5	5	5	4	5	5	5	1
3	5	2	5	5	5	5	3	5	5	1	5	5	5	5	5	4	5	5	5	5
4	5	1	5	5	5	5	4	5	5	5	5	5	5	5	5	4	5	5	5	1
5	5	3	0	5	5	5	4	5	5	5	5	0	5	5	5	4	5	5	5	5
6	5	1	1	5	3	5	2	5	5	5	5	5	1	5	1	4	5	1	1	1
7	1	4	5	5	1	5	4	5	5	5	5	1	5	5	5	4	5	5	5	5
8	5	0	1	5	3	5	2	5	5	5	5	5	5	1	5	4	5	5	5	1
9	1	2	1	5	3	5	2	5	5	5	5	5	1	5	5	2	5	5	5	5
10	5	3	1	5	5	5	4	5	5	5	5	5	5	5	5	4	5	5	5	1
11	5	2	1	5	5	5	2	5	5	5	4	0	5	5	5	4	1	5	5	1
12	5	0	1	5	3	5	4	5	5	5	3	1	1	1	5	4	1	5	5	0
13	1	1	1	5	5	5	2	5	5	5	5	0	5	5	5	3	5	5	5	1
14	5	1	5	5	3	5	2	5	5	5	5	5	5	5	5	4	5	1	5	5
15	5	1	1	5	5	5	4	5	5	5	5	5	5	1	5	4	5	5	5	1
16	5	0	5	5	5	5	2	1	5	5	5	5	5	1	5	4	5	5	5	5
51	5	0	1	5	1	5	2	1	5	5	5	1	5	5	5	2	5	5	5	5
53	5	2	5	5	3	5	4	1	5	5	5	5	5	5	5	2	1	5	5	1
56	1	0	0	5	1	5	3	1	5	5	5	1	5	5	5	4	5	5	5	1
58	5	3	5	5	5	1	3	0	5	5	3	1	1	1	5	4	1	5	5	1
59	5	1	5	5	3	5	3	0	5	5	5	5	5	1	5	4	0	5	5	1
60	5	0	5	2	1	5	3	0	5	5	5	1	5	5	5	3	1	5	5	0

Notes. Question 1 (Lean); 2 (Process); 3 (VSM); 4 (ESI); 5 (Supplier quantity); 6 (Standardization); 7 (Physical arrangement); 8 (VOC); 9 (Software); 9 (Software); 10 (Performance indicators); 11 (Departments involved); 12 (SBCE); 13 (Internal customer value); 14 (Lessons learned); 15 (Library project); 16 (Project monitoring); 17 (Virtual simulation); 18 (kaizen); 19 (Training); and 20 (Overtime).

Table 4 shows that the value found for Cronbach's alpha is equal to 0.99, which, according to M. M. Hill and A. Hill (2008) is considered to be excellent reliability.

Table 4

Calculation of Cronbach's Alpha for the Survey

Variable	Mean	Variance	Standard Deviation	Alpha
Var1	6.07	227.55	15.08	0.99
Var2	6.22	242.10	15.56	0.99
Var3	6.12	233.14	15.27	0.99
Var4	6.10	223.18	14.94	0.99
Var5	6.19	234.33	15.31	0.99
Var6	6.09	222.89	14.93	0.99
Var7	6.16	233.39	15.28	0.99
Var8	6.06	228.82	15.13	0.99
Var9	6.12	222.44	14.91	0.99
Var10	6.17	223.40	14.95	0.99
Var11	6.02	224.96	15.00	0.99
Var12	6.08	230.57	15.18	0.99
Var13	6.09	223.15	14.94	0.99
Var14	6.08	225.80	15.03	0.99
Var15	6.03	222.79	14.93	0.99
Var16	6.12	229.17	15.14	0.99
Var17	6.14	227.28	15.08	0.99
Var18	6.15	222.18	14.91	0.99
Var19	6.14	222.98	14.93	0.99
Var20	6.19	234.56	15.32	0.99

Notes. Mean = 6.44; Standard Deviation = 16.26; Alpha = 0.99

Pearson Correlation

For the statistical analysis and correlation between the questions, the study used Pearson's coefficient of correlation (ρ), also known as the "product-moment correlation coefficient" which measures the degree of correlation (positive or negative) between two variables on the metric scale. If " $\rho = 1$ " signifies a perfect positive correlation between the two variables, while " $\rho = -1$ " signifies a negative correlation and when " $\rho = 0$ " signifies that the two variables do not depend linearly on each other. Nevertheless, there can be a non-linear dependency. Thus, the result " $\rho = 0$ " must be investigated by other means (Runger & Montgomery, 2010).

Table 5 simplifies the correlation between some questions using Pearson. It can be seen that all had a positive value, that is, the results indicate that the questions are correlated, for example, if the companies use lean, then they have VSM or then the project library and the practice of recording lessons learned are two correlated questions. The calculations were done with the use of an electronic spreadsheet and the software Statistica 10.0.

Table 5

Pearson for the Correlation Between the Questions.

Question		Pearson	Result
5 VSM	2 Lean	1	Positive
21 Training	20 Kaizen	1	Positive
14 SBCE	19 Virtual Simulation	1	Positive
16 Project Library	17 Lessons Learned	1	Positive

Conclusions

For the automotive sector, the strongest practices were ESI, standardization, use of software, project library, continuous improvement of the process, and employee training. In a direct manner, 82% of the companies from this sector believe that they are lean, although only 45% conduct VSM and lean practices are implemented in only one process, usually manufacturing. Table 6 presents a summary of the questions that highlights the constructs that the highest number of respondents said that they practiced.

Table 6

Result of the Constructs

Construct	Subsystem	Result	%
Project type	Process	Incremental	34
Use of lean approach	Process	Yes	82
Processes with lean	Process	1 process	36
Year that lean began at the company	Process	2005 and 2010	33
Practice of MFV	Technology	Yes	45
Early supplier involvement (ESI)	People	Yes	95
Number of suppliers	Technology	Reduced	41
Standardization of PDP	Process	Yes	95
Organizational arrangement	People	Departmental	45
Voice of consumer	Technology	Yes	68
Software to accompany schedule	Technology	Yes	100
PDP indicators	Process	Yes	86
Areas involved in the PDP	People	Above 5	82
SBCE	Technology	Yes	50
Value of the internal client	People	Yes	82
Record lessons learned	Process	Yes	73
Project library/project history	Technology	Yes	95
Frequency of review of schedule	Process	Weekly	73
Virtual simulation/digital models	Tool	Yes	73
Continuous improvement of the process/kaizen	Process	Yes	91
Employee education/training	People	Yes	95

It can be concluded that companies are beginning to introduce the lean approach to PDP, although there is still potential to apply many practices and principles that need to take place in a planned and systematic manner. Despite the good rate of return to the survey, the results cannot be generalized. It is important that the academic and business communities continue to develop partnerships to increase competitiveness in the realm of product development, delivering products of value and with an increasingly lower time-to-market.

It is also recognized that companies in Brazil come to consider product development to be a strategic part of their business, altering their profile of follow-source projects for a developing country, with characteristics suitable to the client profile and seeking lean management of processes.

There is global interest in knowing about lean development practices and their impacts on companies. This article highlighted large companies in the Brazilian automotive sector. Conducting the analysis by subsystems helps visualize that the practices related to people are those with the most applications. Table 5 classified them, although all are inter-related, for example continuous improvement through Kaizen is related to the process, they also depends on people. The same is true for other practices.

The suggestions for future studies are:

- adapting the method to small and medium companies that develop products;
- including an environmental category, with questions that verify practices such as remanufacturing, eco-design, and reverse logistics;
- including a category focused on product-service systems (PSS);
- developing a benchmarking to evaluate if the logistical and administrative processes at companies are lean (purchasing, HR, finance, sales, and maintenance);
- developing a benchmarking organized for the lean application in services—hospitals, banks, restaurants, civil construction, supermarkets, stores, and distribution centers.

References

- Ahmed, S., & Amagoh, F. (2010). Application of QFD in product development of a glass manufacturing company in Kazakhstan. *Benchmarking: An International Journal*, 17(2), 195-213.
- Badurdeen, F., Wijekoon, K., & Marksberry, P. (2011). An analytical hierarchy process-based tool to evaluate value systems for lean transformations. *Journal of Manufacturing Technology Management*, 22(1), 46-65.
- Bargelis, A., Kuosmanen, P., & Stasiskis, A. (2009). Intelligent interface module of process capability among product and process development systems in virtual environment. *Journal of Mechanical Engineering*, 55, 1-9.
- Bilalis, N., Alvizos, E., Tsironis, L., & Wassenhove, L. (2007). Benchmarking the competitiveness of industrial sectors—Application in textiles. *International Journal of Productivity and Performance Management*, 56(7), 603-622.
- Boyle, T. A., & Scherrer-Rathje, M. (2009). An empirical examination of the best practices to ensure manufacturing flexibility: lean alignment. *Journal of Manufacturing Technology Management*, 20(3), 348-366.
- Brookfield, J., Liu, R., & Macduffie, J. P. (2008). Taiwan's bicycle industry: A-team battles Chinese competition with innovation and cooperation. *Strategy & Leadership*, 36(1), 14-19.
- Cheng, H., Chen, M., & Mao, C. (2010). The evolutionary process and collaboration in supply chains. *Industrial Management & Data Systems*, 110(3), 453-474.
- Chi, T., Kilduff, P. P. D., & Gargeya, V. B. (2009). Alignment between business environment characteristics competitive priorities, supply chain structures, and firm business performance. *International Journal of Productivity and Performance Management*, 58(7), 645-669.
- Chiang, T. (2009). The minimum cost PD process planning and control methodology with the consideration of resource time constraints and skill levels. *Concurrent Engineering*, 17(4), 257-266.
- Corrar, L. J., Paulo, E., & Dias Filho, J. M. (2009). *Análise Multivariada para os cursos de Administração, Ciências Contábeis e Economia* (FIPECAFI—Fundação Instituto de Pesquisas Contábeis, Atuariais e Financeiras, Atlas, São Paulo, Brazil).
- Dal Forno, A. J. (2012). *Método de Avaliação via benchmarking do Processo do Desenvolvimento Enxuto de Produtos*. Retrieved from <http://www.tede.ufsc.br/teses/PEPS5471-T.pdf>
- Grant, D. B., & Banomyong, R. (2010). Design of closed-loop supply chain and product recovery management for fast-moving consumer goods. *Asia Pacific Journal of Marketing and Logistics*, 22(2), 232-246.
- Hair, J. E., Anderson, R. E., Tatham, R. L., & Black, W. C. (2006). *Multivariate data analysis* (5th ed.). Upper Saddle River: Prentice Hall.
- Haponava, T., & Al-jibouri, S. (2009). Identifying key performance indicators for use in control of pre-project stage process in construction. *International Journal of Productivity and Performance Management*, 58(2), 160-173.
- Hill, M. M., & Hill, A. (2008). *Investigação por Questionário* (2nd ed.). Lisboa: Silabo.
- Huang, Y. Y., & Tan, B. (2007). Applications of quality function deployment to apparel design in Taiwan. *Journal of Fashion Marketing and Management*, 11(2), 215-237.
- Koh, S. C. L., Demirbag, M., Bayraktar, E., Tatoglu, E., & Zaim, S. (2007). The impact of supply chain management practices on performance of SMEs. *Industrial Management & Data Systems*, 107(1), 103-124.
- Malhotra, N. K. (2005) *Introdução à pesquisa de marketing*. Porto Alegre: Bookman.
- Meybodi, M. Z. (2009). Benchmarking performance measures in traditional and just in time companies. *Benchmarking: An International Journal*, 16(1), 88-102.

- Morgan, J., & Liker, J. K. (2006) *The toyota product development process: Integrating people, process and technology*. New York: Productivity Press.
- Mottonen, M., Belt, P., Harkonen, J., & Lin, B. (2009). Managing requirements in ICT companies. *Business Process Management Journal*, 15(6), 968-989.
- Onoyama, M. M. (2011). *Diagnóstico da Gestão do Processo de Desenvolvimento de Produtos em empresas fornecedoras de bens de capital para o setor sucroalcooleiro* (Tese em Engenharia de Produção, UFSCAR, São Carlos, Brazil).
- Park, J., Shin, K., & Chang, T. (2010). An integrative framework for supplier relationship management. *Industrial Management & Data Systems*, 110(4), 495-515.
- Rother, M., & Shook, J. (1999). *Learning to see—Value stream mapping to add value and eliminate MUDA*. Cambridge: Lean Enterprise Institute.
- Rozenfeld, H., Forcellini, F. A., Amaral, D. C., Toledo, J. C., Silva, S. L., Alliprandini, D. H., & Scalice, R. K. (2006). *Gestão de desenvolvimento de produtos: uma referência para a melhoria do processo*. São Paulo: Saraiva.
- Runger, G. C., & Montgomery, D. C. (2010). *Applied statistics and probability for engineers* (5th ed.). Hardcover: Wiley.
- Saliba, M. A., Zarg, A. V., & Borg, J. C. (2010). A modular, reconfigurable end effector for the plastics industry. *Assembly Automation*, 30(2), 147-154.
- Schuch, C. G. (2009). *Proposta de um Modelo para o Planejamento Ágil do Projeto de Produtos*. (Programa de Pós Graduação em Engenharia Mecânica. UFSC, Florianópolis, Brazil).
- Shamsuzzoha, A., Kyllönen, S., & Helo, P. (2009). Collaborative customized product development framework. *Industrial Management & Data Systems*, 109(5), 718-735.
- Sindipeças [Sindicato Nacional da Indústria de Componentes para Veículos Automotores]. (2013). *Brazilian autoparts industry performance 2013*. Retrieved from <http://www.sindipeças.org.br>
- Singh, B., Garg, S. K., & Sharma, S. K. (2009). Lean can be a survival strategy during recessionary times. *International Journal of Productivity and Performance Management*, 58(8), 803-808.
- Smadi, S. A. (2009). Kaizen strategy and the drive for competitiveness—Challenges and opportunities. *Competitiveness Review: An International Business Journal*, 19(3), 203-211.
- Teehan, R., & Tucker, W. (2010). A simplified lean method to capture customer voice. *International Journal of Quality and Service Sciences*, 2(2), 175-188.
- Womack, J. P., & Jones, D. T. (1996). *Lean thinking*. New York: Free Press.
- Zelbst, P. J., Green Jr., K. W., Abshire, R. D., & Sower, V. E. (2010). Relationships among market orientation, JIT, TQM, and agility. *Industrial Management & Data Systems*, 110(5), 637-658.
- Zokaei, K., & Hines, P. (2007). Achieving consumer focus in supply chains. *International Journal of Physical Distribution & Logistics Management*, 37(3), 223-247.

Management of Foreign Market Entry: A Study of Czech Companies

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Internationalization of company activities is the necessity of the development for majority of entrepreneurial subjects in the Czech Republic. Internationalization of entrepreneurial activities becomes a tool of business competitiveness. Selecting the right foreign entry mode is an important decision, which demands a lot of resources and thorough planning. The factors influencing company's choice of entry mode are divided into two main groups subsuming—external and internal factors. External factors consist of determinants regarding the company's environment while the internal ones are determined by the company's specific factors. The opening of new markets such as in the Czech Republic has created the potential for small and medium-size enterprise (SME) expansion and investment. The objective of this paper is to present an application of the entry modes of the selected Czech entrepreneurial subjects. The companies included in the study are those that have undertaken internationalization activities and are incorporated in the Czech Republic. There were a total of 297 enterprises that participated in the research. The research method was an oral questioning and the main instrument was a questionnaire. A relatively low degree of Czech companies that have undergone internationalization has resulted in the dominance of the least advanced forms of internationalization expansion, mainly exports with a small share of more advanced forms of foreign direct investments and a very low level of forms of international cooperation. Czech companies are in decision about the choosing the foreign entry mode influenced by the many factors. The greatest influence on the choice of foreign entry mode has entry mode variables. Entry mode variables constitute variables assessment characteristics of particular entry mode.

Keywords: foreign market entry modes, internationalization process, foreign markets

Introduction

Small and medium enterprises (SME) currently play an important role in international business. The internationalization process of SMEs and company's decision to sell its products in international markets has been the subject of intense academic research in the past 40 years. Several theories and conceptual frameworks have been developed outlining a company's decision to initiate the internationalization process. The foreign market entry selection is highly significant for the company's future performance. One of the crucial strategic decisions an international company has to make is selecting a mode for entering a new foreign market. There are several market entry modes a company can choose from. Each entry mode contains commitments and risks

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as well as control and potential profits. Of empirical interest in this paper are the three distinct groups of the foreign market entry modes: export entry modes, contractual entry modes, and investment entry modes.

One of the main reasons of the interest of Czech companies to expand to foreign markets nowadays is a limited market size of the Czech Republic and, consequently, the increasing competition in the domestic market. The growing interest in doing business in foreign markets gives rise to interests in internationalization in a broader context. However, the research on international entrepreneurship and internationalization processes in Czech professional and business literature is relatively scarce; there are only few studies exploring and monitoring internationalization processes of Czech companies. Due to the absence of substantial research, the author of the present study carried out a research survey among Czech companies to identify specifics of the internationalization process of selected Czech companies and tried to define and explore internationalization models of Czech companies. The findings presented in the study are the first of their kind in the Czech Republic. The main research question of the research is to find out what the specifics of the internationalization process of entrepreneurial activities of Czech companies are, whether it is possible to determine any specific model of internationalization of Czech companies.

The objective of this paper is to present an application of the entry modes of the selected Czech entrepreneurial subjects. The paper is organized into three parts. The first part presents main entry modes used to internationalize entrepreneurial activities. The second part of the paper will present the results based on the surveyed Czech entrepreneurial subjects. The last section provides conclusions and discusses important implications.

Theoretical Framework

The companies that decide to enter international entrepreneurship must be aware both of entrepreneurship opportunities and risks, which are inseparably connected with entrepreneurship. Avoiding business opportunity risks does not lead to economic growth but results in missing business opportunities. The companies that decide to enter international market undergo particular stages of internalization. The progress and speed of business activity internalization depend on the interest and role that is assumed to the international entrepreneurship within entrepreneurship strategy of the company.

The ways of entering international market are influenced by company strategic analysis and target international business analysis. The choice of a particular way of entering international market has been influenced by several factors such as investment demands of a company's entering international market, company's disposable sources, target market potential, the level of business activities control, potential event risk when entering the market, and company competitiveness on the market.

Once a company decides to enter an international market, it must select an appropriate entry mode (Erramilli & Rao, 1993; Burgel & Murray, 2000). A foreign market entry mode is defined as "an institutional arrangement that makes possible the entry of a company's products, technology, human skills, management, or other resources into a foreign country" (Root, 1994). According to Bradley (2002), the concept of market entry refers to the difficulty or ease a company face, when entering international markets, "Entry is one of the supreme tests of competitive ability. No longer is the company providing itself on familiar ground, instead it has to expose its competences in a new area" (Bradley, 2002, p. 244).

There are several theoretical streams dealing with this choice, such as the economic factor analysis, transaction cost analysis, resource-based theory, the OLI model, and behavioral theory. These theoretical

backgrounds provide a description of large mode selection. The research on an international entry mode choice has tended to concentrate on large companies. The research findings suggest that due to the fact that SMEs differ from their larger competitors, their mode choice may also differ. Among characteristics of SMEs affecting the mode choice were included these characteristics: managerial and financial resources (Zacharakis, 1997), the ability to service small niche markets (Yap & Souder, 1994), and less innovative of the SME technology (Tether, Smith, & Thwaites, 1997). Hollenstein (2005) has explained that the internationalization process of SMEs involves limitations of resources in form of finance, information, and management capacity to a much higher extent for multinational cooperation's. On the other hand, Bradley, Meyer, and Gao (2006) have argued that many SMEs are forced to internationalize, particularly high technology companies, due to the focus on niche markets, shorter product life cycles and frequently, the small size of their domestic markets relative to the potential that exists abroad. Because of the specifics of SMEs, it is unclear whether large company mode choice theories can be applied.

Some researches, like Burgel and Murray (2000) and others (Jones, 1999; Zacharakis, 1997), have suggested that SME entry mode selection has so far received little attention. Choosing a suitable international entry mode can have significant impact on SMEs. Companies entering foreign markets choose different entry modes ranging (Rasheed, 2005). The foreign market entry modes can be divided into three groups: export entry modes, contractual entry modes, and investment entry modes. Export entry modes include direct and indirect exporting. Contractual entry modes include licensing, franchising, contract manufacturing, service contract, construction/turkey contracts, management contracts, and co-production agreements. The third group, investment entry modes, includes joint ventures, foreign direct investment (greenfield investments, acquisitions and mergers), and strategic alliances.

A company seeking to enter a foreign market must make an important strategic decision on which entry mode was used for a particular market. Because all of these modes involve resource commitments, companies' initial choices of a particular mode are difficult to change without a considerable loss of time and money. Entry mode selection is therefore very important, if not a critical and strategic decision.

Managers need to consider what the best way for the company to enter a specific market is and take into consideration the risk and environmental factors that are associated with the different entry strategies (Deresky, 2000). Previous studies in the area of international trade have identified a number of factors that influence the choice of an entry mode for a selected target market. The normative decision theory suggests that the choice of a foreign market entry mode should be based on trade-offs between risks and returns. A company is expected to choose the entry mode that offers the highest risk-adjusted return on investment. The behavioral evidence theory indicates that a company's choices may also be determined by resource availability and the need for control. Resource availability refers to the financial and managerial capacity of a company for serving a particular foreign market. Control refers to a company's need to influence systems, methods, and decisions in that foreign market. Entry mode choices are often a compromise among these four attributes.

The factors influencing company's choice of entry mode are according to Johanson and Vahlne (1977) divided into two main groups, external factors and internal factors. Koch (2001) introduced a holistic model of the market and market entry mode selection process. All factors proposed to influence the market/market entry mode selection process fall into three broad categories: external, internal, and the mixed category. According to Koch (2001), the external category includes industry feasibility, characteristics of the country business environment, market growth rate, image support requirements, global management efficiency requirements,

popularity of individual market entry modes in the overseas market, market barriers, etc.. The internal category includes calculation methods applied, management locus of control, market share targets, company size and resources, profit targets, management risk attitudes, experience in using individual market entry modes, etc.. The third mixed category includes sufficiency and reliability of information inputs, competencies, capabilities, and skills required and available for each market entry modes. Some of the proposed categories of factors may influence each other, adding to the complexity of the decision process.

In order to fulfill the aim of this paper, the following hypotheses were developed.

Hypothesis 1: The entry mode is influenced by incentive to entry to foreign markets.

Hypothesis 2: The entry mode is influenced by using of business partners.

Hypothesis 3: The entry mode is influenced by the level of knowledge of the target foreign market.

Hypothesis 4: The entry mode is influenced by business activities.

Hypothesis 5: The entry mode is influenced by the choice of geographical sub-region at the first international entry.

Hypothesis 6: The entry mode is influenced by the choice of cultural cluster at the moment of the first international entry.

Hypothesis 7: The entry mode is influenced by the number years of the international management experience at the first international entry.

Hypothesis 8: The entry mode is influenced by the age of the company at the first international entry.

Hypothesis 9: The entry mode is influenced by the number of geographical sub-regions at the first international entry.

Hypothesis 10: The entry mode is influenced by the number of target foreign markets at the first international entry.

Hypothesis 11: The entry mode is influenced by the number of cultural clusters at the first international entry.

Hypothesis 12: The entry mode is influenced by the size of the company.

Materials and Methods

This paper presents the results of research that focused on application of the entry modes of the selected Czech entrepreneurial subjects.

The companies included in the study are those that have undertaken internationalization activities and are incorporated in the Czech Republic. The number of companies that participated in the research (total 297) covers a wide range of industries. The internationalization of the entrepreneurial subjects has been researched using the method of questioning, in particular oral questioning and the main instrument was a questionnaire. In order to ensure a representative sample, the questionnaire was submitted to the selected top managers or directors of enterprises. The total of 297 valid questionnaires was collected, which provided the response rate of 74%. The research was carried out in the Czech Republic from March 2013 to April 2013.

The dependent variable in this study is the choice of entry modes by Czech companies at the first international entry. The independent variables in this study are: incentive to entry foreign markets, the level of knowledge of the target foreign market, cooperation with another company (Czech or foreign partners), the choice of geographical sub-region at the first international entry, the choice of cultural cluster at the first international entry, the branch of business activity, the number years of the international management

experience at the first international entry, the age of the company at the first international entry, the number of geographical sub-regions at the first international entry, the number of target foreign markets at the first international entry, and the number of the cultural clusters at the first international entry and the company size (size is determined by the number of employees).

Results and Discussion

The research subsumes a two-stage analytical method. The first stage includes categorical data analysis and ANOVA analysis. The second stage draws on factor analysis. The analysis began by examining the correlation between variables. All variables were screened to reveal their distribution through Pearson correlation coefficients. The focus has been on the validity of the overall framework by examining the impact of the identified relevant entry mode variables operated together on the final entry mode choice.

The hypotheses 1 to 6 were tested through categorical data analysis. Table 1 presents the results of the analysis.

Table 1

Categorical Data Analysis for Hypothesis 1 to 6

	Pearson Chi-square		Cramer's <i>V</i>	Asymp. Sig.
	Value	df	Value	
Hypothesis 1	404.817	343	0.441	0.012
Hypothesis 2	176.538	147	0.445	0.049
Hypothesis 3	106.820	98	0.424	0.255
Hypothesis 4	116.985	98	0.444	0.093
Hypothesis 5	1,394.83	1,715	0.433	0.000
Hypothesis 6	1,442.188	1,372	0.416	0.092

Hypothesis 1 presumed that the entry mode is influenced by incentive to entry to foreign markets. This hypothesis has been confirmed: The strength of this relationship is medium ($V = 0.441$), as shown in Table 1. Hypothesis 2 presumed that the entry mode is influenced by the using of business partners. This hypothesis has been confirmed: The strength of this relationship is medium ($V = 0.445$). Hypothesis 3 presumed that the entry mode is influenced by the level of knowledge of the target foreign market. This hypothesis was not confirmed. In Hypothesis 4, it was assumed that the entry mode is influenced by the business activity: This hypothesis is not supported. Hypothesis 5 presumed that the entry mode is influenced by the choice of geographical sub-region at the first international entry. This hypothesis has been confirmed: The strength of this relationship is medium ($V = 0.433$). Hypothesis 6 presumed that the entry mode is influenced by the choice of cultural cluster at the first international entry: This hypothesis is not supported.

The hypotheses 7 to 12 were tested through ANOVA Analysis. Table 2 presents the results of the analysis.

Hypothesis 7 presumed that the entry mode is influenced by the number years of the international management experience at the first international entry: This hypothesis has been confirmed. Hypothesis 8 presumed that the entry mode is influenced by the age of the company at the first international entry: This hypothesis has been confirmed. Hypothesis 9 presumed that the entry mode is influenced by the number of geographical sub-regions at the first international entry: This hypothesis was not confirmed. In Hypothesis 10, it was assumed that the entry mode is influenced by the number of target foreign markets at the first international entry: This hypothesis is not supported. Hypothesis 11 presumed that the entry mode is influenced

by the number of cultural clusters at the first international entry: This hypothesis was not confirmed. Hypothesis 12 presumed that the entry mode is influenced by the size of the company: This hypothesis is not supported.

Table 2

Anova Analysis for Hypotheses 7 to 12

		Sum of Squares	df	Mean Square	F	Sig.
Hypothesis 7	between groups	2,653.305	49	54.149	5.462	0.000
	within groups	2,448.499	247	9.913		
	total	5,101.805	296			
Hypothesis 8	between groups	28,745.974	49	586.653	2.843	0.000
	within groups	50,975.905	247	206.380		
	total	79,721.879	296			
Hypothesis 9	between groups	45.152	49	0.921	0.476	0.999
	within groups	478.390	247	1.937		
	total	523.542	296			
Hypothesis 10	between groups	2,253.641	49	45.993	0.571	0.990
	within groups	19,902.163	247	80.576		
	total	22,155.805	296			
Hypothesis 11	between groups	61.964	49	1.265	0.961	0.551
	within groups	324.871	247	1.315		
	total	386.835	296			
Hypothesis 12	between groups	10,497,072	49	214,225.954	1.214	0.173
	within groups	43,590,554	247	176,479.977		
	total	54,087,626	296			

Furthermore, the factor analysis has been carried out due to the specification of factors affecting the choice of entry mode: It draws on 25 specified criteria as shown in Table 3. The criteria are based on information offered due to personal communication with selected experts from business and universities and on the basis of previous researches. Respondents expressed their opinion for the importance of each criterion by using the five-point Likert Scale (5 = strongly agree to 1 = strongly disagree). The reliability of measurements was acceptable (Table 3). The total reliability reached the value of $\alpha = 0.865$, standardized item $\alpha = 0.865$.

Varimax rotation was performed. Seven factors with eigen-values greater than 1 were extracted. The factors loading greater than 0.5 are shown in bold. The results of the factor analysis are shown in Table 4.

Factor analysis extracted seven factors with eigen-value greater than 1: Along with the observed loadings, this indicates the convergent and discriminant validity of these constructs. The factor loadings structure was employed to determine the factor scores of each company on the seven constructs. All the scale items loaded highly on factors they represented and weakly on other factors. The seven factors accounted for 57.7% of the total variation in the sample. Those seven factors determine the choice of entry mode. Factor 1 “macrolevel factor” is formed by the factors of macro-level (infrastructure, political stability, social and cultural differences, right and legislation, foreign trade policy). Factor 2 “target market factor” characterizes the target market in terms of entry preparation (preparation time, chosen target market, knowledge and information about target market). Factor 3 “factor of method characteristics” is connected with basic characteristics of specify method (flexibility of method, risk of method, degree of control). Factor 4 “company factor” defines fundamental characteristics (or identification) of the company such as the company size and product type for foreign markets. Factor 5 “factor of market attractiveness” describes market attractiveness both in the terms of the economical and localization. Factor 6 “cost factor” is formed by production costs and sales costs. Finally, factor 6 “resources factor” defines necessary resources for the method.

Table 3

Evaluation of Choice Criteria

Criterion (a)	mean	rank
Return on investments (0.865)	4.68	1
Necessary resources for the method (0.864)	4.43	2
Knowledge and information about target market (0.859)	4.31	3
Intensity of competition (0.862)	4.22	4
Risks of the method (0.862)	4.21	5
Sales costs in the target market (0.858)	4.10	6
Long-term goals of the company (0.862)	4.09	7
Degree of the control method (0.861)	4.03	8
Market barriers in the target market (0.856)	4.03	9
Chosen target market (0.859)	4.01	10
Market size and rate of growth market (0.860)	3.92	11
Type of product for foreign markets (0.863)	3.89	12
Flexibility of the method (0.862)	3.82	13
Right and legislation of the target market (0.858)	3.71	14
Tax environment in the target market (0.858)	3.70	15
International management experience (0.859)	3.67	16
Preparation time for entry into the target market (0.859)	3.66	17
Production costs in the target market (0.864)	3.64	18
Political stability of the country (0.858)	3.49	19
Infrastructure in the target market (0.859)	3.46	20
Geographical distance of the target market (0.865)	3.44	21
Foreign trade policy of the home market (0.855)	3.42	22
Foreign trade policy of the target market (0.853)	3.41	23
Size of the company (0.863)	3.15	24
Social and cultural differences between home market and target market (0.856)	2.86	25

Table 4

Factor Analysis

Items	Factors						
	1	2	3	4	5	6	7
Necessary resources for the method	-0.031	-0.055	0.455	-0.040	-0.025	0.153	0.622
Flexibility of the method	0.100	0.051	0.724	0.305	-0.020	-0.053	0.022
Risks of the method	0.079	0.150	0.726	-0.117	0.166	0.074	0.139
Degree of the control method	0.185	0.150	0.628	0.167	0.022	0.042	0.008
Return on investments	0.001	0.266	0.333	-0.299	0.202	0.133	0.025
Type of product for foreign markets	0.139	0.249	0.064	0.639	0.041	0.107	-0.151
Size of the company	0.072	0.062	0.107	0.726	0.141	0.053	0.102
International management experience	0.079	0.384	0.226	0.459	-0.018	-0.034	0.381
Long-term goals of the company	0.279	0.393	0.212	0.273	-0.059	0.078	-0.004
Preparation time for entry into the target market	0.019	0.511	-0.028	0.239	0.074	0.075	0.396
Chosen target market	0.190	0.709	0.097	0.180	0.063	0.053	-0.095
Knowledge and information about target market	0.226	0.744	0.172	-0.038	0.017	0.035	0.126
Infrastructure in the target market	0.559	0.106	0.163	0.090	0.075	0.204	-0.065
Production costs in the target market	0.155	-0.051	0.080	0.154	-0.017	0.850	0.155
Sales costs in the target market	0.223	0.289	0.039	-0.020	0.262	0.716	-0.013
Market barriers in the target market	0.462	0.269	0.241	-0.121	0.398	0.202	-0.081

Table 4 to be continued

Items	Factors						
	1	2	3	4	5	6	7
Intensity of competition	0.182	0.053	0.035	-0.075	0.740	0.172	-0.025
Market size and rate of growth market	0.120	0.376	0.195	0.139	0.518	0.124	-0.085
Political stability of the country	0.666	0.177	-0.027	0.019	0.042	0.102	0.060
Tax environment in the target market	0.483	0.166	-0.032	-0.064	0.019	0.351	0.479
Social and cultural differences between home market and target market	0.613	0.013	0.042	0.152	0.230	0.074	0.330
Geographical distance of the target market	0.129	-0.078	0.034	0.282	0.714	-0.109	0.208
Right and legislation of the target market	0.577	0.099	-0.066	-0.032	0.242	-0.083	0.404
Foreign trade policy of the target market	0.825	0.104	0.167	0.100	0.081	0.011	0.064
Foreign trade policy of the home market	0.780	0.127	0.137	0.122	0.088	0.071	-0.098
Eigen-value	6.140	1.968	1.482	1.318	1.244	1.205	1.059
Percentage of variance explained	24.562	7.872	5.926	5.273	4.977	4.821	4.237
Cumulative percentage of variance explained	24.562	32.434	38.360	43.633	48.609	53.430	57.668

Notes. Extraction method: principal component analysis; rotation method: varimax with Kaiser Normalization; Rotation converged in 14 iterations.

It has been found out that Czech companies used for their first entry to the foreign market primarily export entry modes (Figure 1).

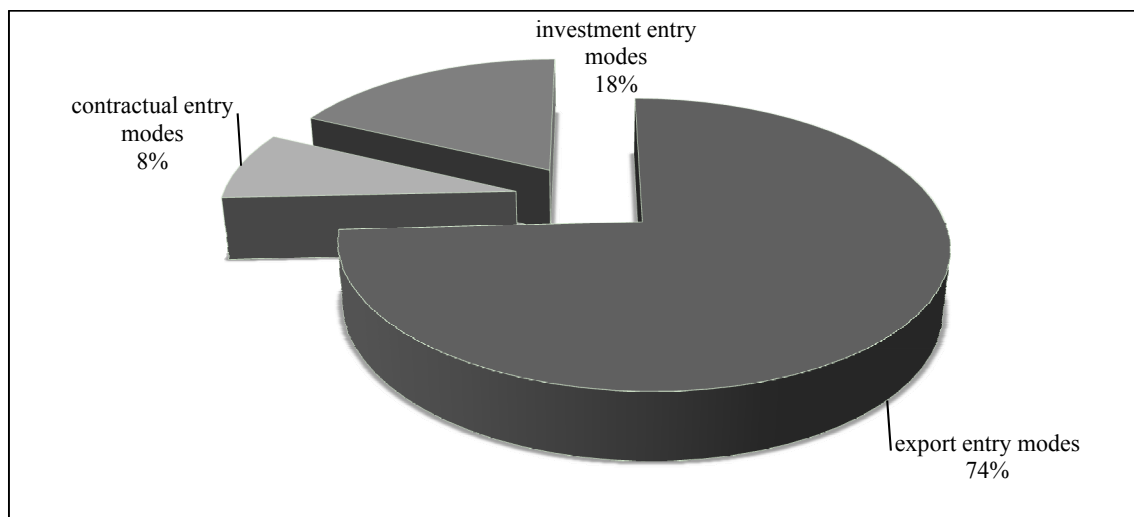


Figure 1. Foreign entry modes of Czech companies.

Ever the most widely used mode has been occasionally direct exporting (51% respondent). The applied foreign entry modes (when it firsts enters into foreign market) by Czech companies were influenced by incentive to entry, by using of business partner, by the choice of geographical sub-region at the first international entry, by the number years of the international management experience at the first international entry, and by the age of the company at the first international entry.

When deciding which foreign entry mode to choose, most Czech companies are influenced by various factors. With the help of factor analysis, seven factors have been identified. These seven factors can be classified into four main groups: macro-environment variables, entry mode variables, company variables, and market variables.

As shown in Figure 2, the greatest influence on the choice of foreign entry mode has entry mode variables. Entry mode variables constitute variables assessment characteristics of a particular entry mode. These characteristics include: flexibility of the method, risk of the method, degree of the method control, etc..

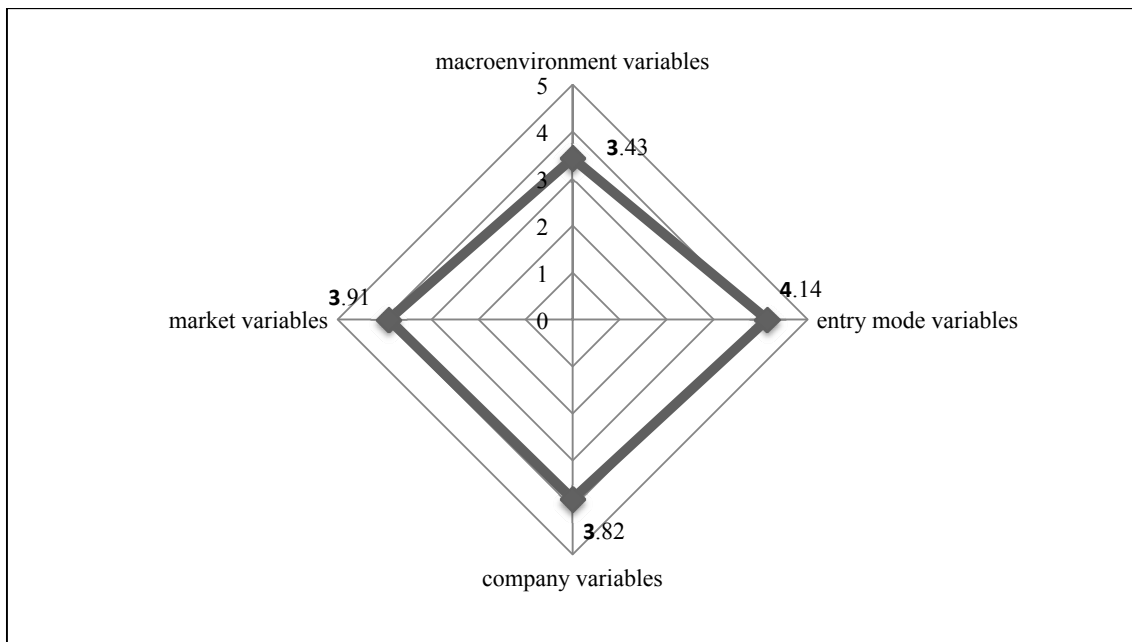


Figure 2. Variables influencing the choice of foreign entry modes.

The second most influential factor group is market variables. Market variables constitute those characteristics of a target market which are significant in terms of entry into foreign markets. These characteristics include: market barriers, intensity of competition, market growth, etc..

Company variables are the third most important group of decisive factors when choosing the foreign entry mode. The group includes factors of internal company environment as company size, product type for foreign markets, international management experience, etc.. Factors of internal company environment determine the possibilities of the company particularly in terms of company resources.

The least influential group of factors according to the investigation of selected Czech companies is macro-environment variables. Macro-environment variables describe macro-environment characteristics both of the domestic and of the foreign country. These characteristics include: political stability, tax conditions, social and cultural differences, right and legislation, etc..

Conclusions

The major objective of the paper was to present an application of the foreign entry modes of the selected Czech entrepreneurial subjects. The study provided support for hypothesized relationships suggesting the importance of including interaction effects in the entry choice. This study shows that Czech companies have a higher preference for export entry modes. In general, companies do not prefer the investment entry modes and contractual entry modes when risks are higher.

The above findings clearly show that foreign entry mode selection is influenced by factors of entry mode. It was found out that the most influential factor in choosing the foreign entry mode is return on investments.

The Czech Republic is a country with a high share of exported and imported goods in its GDP which is typical of small countries, of which the country is an example. The Czech entrepreneurial subjects have been increasingly taking part in international market since the beginning of the 21st century and this trend seems to be growing. Most companies are aware of the necessity of the development of business and entrepreneurship activities international-wide. The necessity of active participation of Czech entrepreneurial subjects at international market is conditioned primarily by the character of Czech economics and its foreign political orientation.

The Czech Republic government has based its actions on these fundamental economic facts and it is fully aware of the exceptional significance of external economic relations and in particular exports for the development of Czech national economy. The Czech government is aware of the fact that despite the comparability of the level of openness of the Czech economy with those of the medium-sized EU countries, the per capita exports for the Czech Republic do not compare favorably. The Czech government is paying significant attention to the fact that the export share of SMEs exceeds an average of 50% in the EU countries, but only 37% in the Czech Republic.

References

- Bradley, F. (2002). *International marketing strategy* (4th ed.). Essex: Pearson Education Limited.
- Bradley, F., Meyer, R., & Gao, Y. (2006). Use of supplier-customer relationships by SMEs to enter foreign markets. *Industrial Marketing Management*, 35, 652-665.
- Burgel, O., & Murray, G. (2000). The international market entry choices of start-up companies in high-technology industries. *Journal of International Marketing*, 8(2), 33-62.
- Deresky, H. (2000). *International management* (3rd ed.). Upper Saddle River: Prentice Hall.
- Erramilli, M. K., & Rao, C. P. (1993). Service firms' international entry-mode choice: A modified transaction-cost analysis approach. *Journal of Marketing*, 57(3), 19-38.
- Hollenstein, H. (2005). Determinants of international activities: Are SMEs different? *Small Business Economics*, 24(5), 431-450.
- Johanson, J., & Vahlne, J. E. (1977). The internationalization process of the firm—A model of knowledge development and increasing foreign market commitments. *Journal of International Business Studies*, 8, 23-32.
- Jones, M. (1999). The internationalization of small high-technology firms. *Journal of International Marketing*, 7, 15-41.
- Koch, A. J. (2001). Factors influencing market and entry mode selection: Developing the MEMS model. *Marketing Intelligence & Planning*, 19(5), 411-432.
- Rasheed, H. S. (2005). Foreign entry mode and performance: The moderating effects of environment. *Journal of Small Business Management*, 43(1), 41-54.
- Root, F. R. (1994). *Entry strategies for international markets*. San Francisco: Jossey-Bass, Inc..
- Tether, B. S., Smith, I. J., & Thwaites, A. T. (1997). Smaller enterprises and innovation in the UK: The SPRU innovations database revisited. *Research Policy*, 26(1), 19-32.
- Yap, C., & Souder, W. (1994). Factors influencing new product success and failure in small entrepreneurial high-technology electronic firms. *Journal of Product Innovation Management*, 11, 418-432.
- Zacharakis, A. (1997). Entrepreneurial entry into foreign markets: A transaction cost perspective. *Entrepreneurship Theory & Practice*, 21(3), 23-39.



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