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AN EMPIRICAL EXAMINATION OF ENTREPRENEURIAL ORIENTATION. EVIDENCE FROM ROMANIA

Empirical
study

Keywords

Entrepreneurial supply chains
Entrepreneurial orientation
Organizational competences

JEL Classification

M10, C35, C54

Abstract

In order to achieve the desired performances and the increased value added to the final consumer, organizations need not only to integrate their core businesses and align them to business strategy but also to develop essential entrepreneurial competences. After presenting the dimensions of entrepreneurial orientation and their specificity in a supply chain, we propose an empirical research using a working dataset of 64 firms from various industries to analyze the Romanian entrepreneurial supply chains. Structural equations are employed to estimate the complex relationships between organizational performances and entrepreneurial orientation in supply chains at national level. Results show that entrepreneurial orientation influences organizational competences only in the framework of the supply chain management strategic approach to operational excellence.

Introduction

An entrepreneur creates value through innovation, discovery and exploitation of profitable yet risky economic endeavors (Hsu et al., 2011; Sarkar et al., 2001). He begins a business that can be a start-up or an established venture respectively innovative or replicative in nature (Lee, 2012). Today entrepreneurial theory balances the interest of different stakeholders, corroborating the economic value creation with sustainability and social considerations (Sciascia & Bettinelli, 2013). Moreover, entrepreneurial theory extended its focus from organizational level to the level of supply chains (Lee, 2012) where supply chains is by definition a network of interconnected organizations channeling the flows of materials, products, information, services and capital from their origin to the last customer (Lu, 2011). Consequently, in the last decade we have witnessed the emergence of entrepreneurial supply chains (ESC).

Present study focuses on the problematic of ESC. In the first part of the study, we follow the existing ESC literature in order to identify the characteristics of entrepreneurial orientation in supply chains. In the second part, our proposed empirical study investigates the impact of entrepreneurial competences in the context of Romanian supply chains on organizational competences.

Although national research in the field focuses on social aspects of entrepreneurship, there are several studies in the field of ESC. For example (Antoncic & Prodan, 2008) investigate the mediator role of inter-firm alliances on the relationship between entrepreneurship and organizational performances and (Antoncic & Scarlat, 2008) investigate the relationship between entrepreneurial orientation and organizational performances.

To extend the knowledge in this area, our research is interdisciplinary, using a structural approach to model the determinants of organizational performances in supply chains and to measure the complex relationships between entrepreneurial competences in supply chains and different facets of organizational performances in the context of Romanian supply chains.

1. Entrepreneurial orientation in supply chains and organizational performances

An ESC requires a transformation of traditional supply chains which enables both entrepreneurship and innovation. Corroborating transformation, innovation and entrepreneurship result in incremental improvements from enhanced supply chain capabilities (Lee, 2012). Re-thinking inter-firm alliances and relationships, collaborative design and planning of the overall architecture of the supply chain, rethinking the manufacturing system to develop flexible capacity while allowing

economies of scales, and flexible pricing programs can foster the development of ESC (Lee, 2012; Lu, 2011). Transformation requires a series of steps allowing a company to stage progress through long-term thinking, delivering value for relevant stakeholders, expanding and building up capabilities and 'scaling up to long-term value' (Lee, 2012).

The research conducted by (Pato & Teixeira, 2013) measure entrepreneurship at organizational level through a construct named entrepreneurial orientation (EO). This concept has three dimensions: (a) innovation orientation, (b) risks taking characteristics and (c) proactiveness orientation. Each dimension requires developing adequate entrepreneurial competences. According to (Pato & Teixeira, 2013) all dimensions of EO are positively associated with organizational performances.

1.1 Antecedents of entrepreneurial orientation

An important group of empirical studies in the field of entrepreneurship analyze the antecedents of EO. Most studies in this area focus only on two classes of antecedents of: firms' external environment and organizational-level internal factors. The existing literature shows a positive relationship between the volatility of firm's business environment and entrepreneurship. Innovative behavior and competitive proactiveness were found to be significantly more positive related to environmental instability among high performance firms compared to unsuccessful firms (Mohamad et al., 2011). The rationale for this is that volatile environment will support innovation and risk taking. Findings of (Mohamad et al., 2011) also reveal that government policies interact with innovation and proactiveness, explaining the variance in performance.

Research on organizational-level and internal factors as antecedents of EO concentrate on the influence of high performance human resource practices on entrepreneurial orientation (Yu, 2013; Zhang & Jia, 2010). Employing a structural analysis, Yu, 2013, has found that factors such as selective staffing, extensive training, employment security, incentive reward and participation do have a positive and statistically significant impact on EO. Moreover, an OLS estimation used by Zhang and Jia (2010) brings supporting evidence on the positive influence of high-performance human resource practices on EO. The mechanism supporting such a relationship is mediated by strong feelings of support from the organization, support that motivates employees to innovate, assume risks and bring their contribution to the organization to which they belong. Antoncic, 2001, analyzes the role of inter-firm alliances and relationships as antecedents of EO. The above mentioned research has brought supporting evidence that inter-firm communication, trust,

external relationships and value congruence can be beneficial to entrepreneurial orientation.

1.2. Mediators of entrepreneurial orientation in the context of supply chains

Research of the relationship between EO and organizational performances underlines the existence of factors influencing it, namely mediators. Such mediators include integration of business activities, innovativeness, organizational structure, commitment and organizational learning. The research conducted by (Hsu et al., 2011) extends the concept of EO from the organizational level to supply chain level. That shows that relational capital and coordination capability act as mediators of the relationship between entrepreneurial orientation in supply chains and organizational performances.

2. Analysis of entrepreneurial orientation in the context of Romanian supply chains

Present research aims at documenting the importance of entrepreneurial orientation in Romanian supply chains.

2.1. Conceptual framework

Based on Pato& Teixeira, 2013, we formulate our main hypothesis of present research as:

- EO is positively correlated with organizational performances;

We propose the following framework for analyzing EO-organizational performances' relationship in the context of supply chains:

According to figure no. 1, EO has both a direct and an indirect effect on organizational performances.

Our proposed conceptual framework incorporates the following constructs:

- Entrepreneurial orientation
- Supply chain management strategy
- Organizational performances

We follow Pato& Teixeira, 2013 to identify the indicator variables corresponding to EO. We have followed existing literature in the field to identify two factors of ESCM strategy: (a) relational capital and (b) coordination capability. The scale corresponding to relational capital and coordination capability is taken from (Hsu et al., 2011).

In addition we follow Richard et al., 2009 to control the multidimensionality of organizational performances. For measuring organizational performances we use the scales defined by Kenneth et al., 2008. Consequently, organizational performances incorporate performances depicted in figure 2.

The multidimensionality of organizational performances adds three constructs to our conceptual framework:

- Marketing performances
- Financial performances
- Logistic performances

For measuring organizational performances we use the scales defined by Kenneth et al., 2008.

2.2. Methodology

In the autumn of 2013 we have conducted a comprehensive supply chain management research targeting an initial sample of 200 Romanian companies. While we present data and results relevant only for the purpose of present research, the database collected is much broader and serves also for other studies in the field of supply chain management.

Data was obtained using a survey-based questionnaire asking the respondents to assess (a) different aspects of EO in their firm, (b) supply chain management strategy and (c) different facets of organizational performances. In total we obtained 64 usable responses, for a response rate of 32%, similar to that reported by Hsu et al., 2011 (37.5%). Sample size is also similar to that employed by research in the field (Antonicic & Scarlat, 2005). Analysis was conducted with statistical package SAS 9.3.

The analysis of frequencies of companies in the working dataset reveals that the proposed analysis uses a sample of firms from various industries, covering all levels of a supply chain, from production to commerce (table no. 1).

Table no.1 reveals that only 16 firms in our sample are from commerce and other services.

Following recommendations in the field of SCM, we have analyzed both the measurement model and the structural one by means of structural equation modeling (SEM). We have chosen SEM because it can handle efficiently the complex interdependences in a supply chain. Moreover SEM is the most prevalent research methodology employed in supply chains research (Kenneth et al., 2008; Sarkar et al., 2001).

2.3. Analysis of measurement scales

Pre-testing ensured that scales used in the analysis measure all facets of the underlying theoretical concepts. Review of existing literature has ensured that all the items of a scale are being conceptually and theoretically linked to the underlying construct. In order to measure unidimensionality of a scale we have used the factor loadings estimated with SEM. Finally, to test for reliability we have used the Cronbach's alpha.

Table no. 2 resents the analysis of the measurement model corresponding to entrepreneurial orientation. Table no. 2 reveals that in the case of variable indicators measuring EO all estimated loadings are statistically significant. However, the loadings corresponding to four factors are below the 0.7 threshold. A 0.89 Cronbach' alpha shows that in this case the scale is reliable.

Analysis of the measurement model corresponding to SCMS is depicted in table no. 3.

According to table no.3, all estimated loadings are statistically significant. However those corresponding to relational capital do not display a strong association with the SCMS. Cronbach' alpha is adequate for scale reliability ($\alpha=0.82$).

Tables 4-6 present the measurement model corresponding to logistic, marketing and financial performances.

Table no. 4 shows that among logistics performance indicators only 'schedule requirements', 'service rate' and 'delivery speed' exhibit strong association with underlying variable. All coefficients are statistically significant.

Table no. 5 shows that ROI (return on investment) does not exhibit strong association with financial performance.

Table no. 6 shows that measurement scale corresponding to marketing performance is unidimensional. In addition Cronbach's alpha ($\alpha=0.92$) shows that the scale is reliable.

We can use 'marketing performance', 'financial performance' and 'logistic performance' as indicators of the second order latent variable named 'organizational performances'.

Table no.7 shows the analysis of the measurement model corresponding to organizational performances.

As table no. 7 shows, the scale used to measure 'organizational performance' is unidimensional. In addition it is reliable ($\alpha=0.93$).

2.4. Analysis of the structural model

Table no. 8 reveals that once we control SCMS, EO does not have a direct statistical significant impact on organizational performances. Yet EO does support organizational performances indirectly, through SCMS. Thus our results bring supporting evidence for our proposed hypothesis of research.

Concluding remarks

Analysis of the measurement models reveals several important findings. In the case of EO, four indicators do not display strong correlations with EO. They are:

- Level of research;
- Speed of new product development;
- High degree of unity of purpose throughout the organization;
- Innovative and leading edge research;

In order to maximize the benefits of innovativeness in the context of national supply chains, a more intensive research and higher speed of new product development are necessary. In order to improve the risk-taking characteristics in Romanian supply chains a higher degree of unity of purpose throughout the organization is necessary. Finally, a proactive orientation requires that the organization conducts leading edge research in its field of activity.

Analysis of the measurement model corresponding to ESCMS brings evidence that in Romanian supply chains achieving the desired competitiveness is realized through a strategy of operational excellence. This is in accordance with previous findings that European and American firms adopt a strategy of operational excellence instead of collaborative closeness Morash& Clinton, 1998.

Analysis of the measurement model corresponding to financial performances reveals that ROI does not display a strong association with underlying latent construct. Accordingly, in Romanian supply chains the most important factors of organizational performances are costs and profits.

Analysis of the structural model shows that in Romanian supply chains EO influences organizational performances only in the general framework of organizational strategy. Thus, in order to maximize organizational performances, ESC have to develop adequate strategies to cope with risks, to promote innovativeness and proactive orientation.

In conclusion, the present study offers an insight on the measures necessary to achieve a successful transformation of traditional supply chains in entrepreneurial ones.

In addition we have underlined the benefits of SEM for modeling the complex relationships specific to ESC.

As a limit, we mention that it is always beneficial to control for more factors. Thus future research should analyze the EO – organizational performances relationship after controlling for firm size and industry. It would be beneficial also to account for sustainability and social value created in Romanian supply chains.

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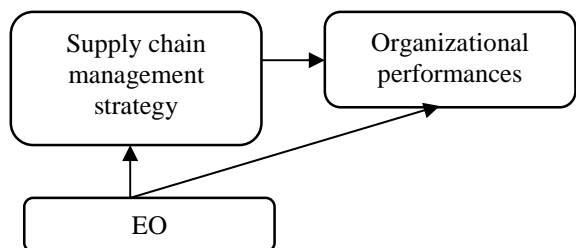


Figure no. 1. Conceptual framework

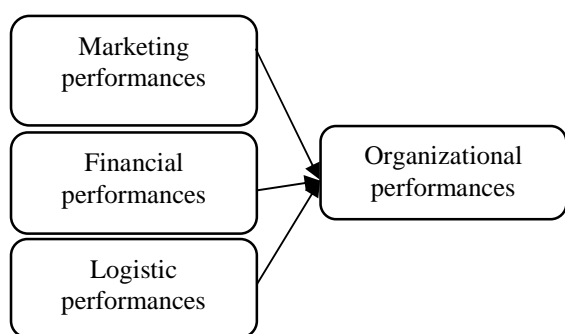


Figure no. 2. Organizational performances

Table no.1.
 Frequencies by industry

Industry	Frequency	Percent
Metallurgical	5	7.81
Electrical and electronics engineering	9	14.06
Chemicals	1	1.56
Furniture and wood	4	6.25
Constructions	9	14.06
Textiles	4	6.25
Food	7	10.94
Transport	5	7.81
Telecommunications	4	6.26
Commerce	8	12.50
Other	8	12.50

Table no. 2.
Entrepreneurial orientation. Analysis of the measurement model

Path		St. errors	t Value
Level of research	0.56	0.09	6.10
Novelty of new products	0.73	0.06	11.45
Use of latest technological innovations	0.78	0.05	14.55
Speed of new product development	0.64	0.08	7.99
Number of new products introduced	0.74	0.06	12.09
Management encourage change	0.76	0.06	13.23
Employees are encouraged to help organizations to implement change	0.78	0.05	14.54
High degree of unity of purpose throughout the organization	0.66	0.08	8.73
New technology in industry	0.80	0.05	16.16
Anticipation of the full potential of new practices and technologies	0.81	0.05	16.55
Attempting to acquire next generation technology	0.81	0.05	16.70
Innovative and leading edge research	0.66	0.08	8.67

Table no. 3.
Supply chain management strategy. Analysis of the measurement model

Path		St. errors	t Value
Involving customers in defining strategic path	0.55	0.09	5.83
Close contacts with clients	0.64	0.08	7.87
Visiting key customers	0.60	0.09	6.91
Long term relationships with customers	0.52	0.10	5.41
Common incentive schemes	0.75	0.06	12.42
Focus on JIT production/distribution	0.81	0.05	16.09
Focus on reengineering	0.90	0.03	26.01
Focus on standardization of operations	0.80	0.05	15.46

Table no. 4.
Logistic performances. Analysis of the measurement model

Path		St. errors	t Value
Schedule requirements	0.70	0.08	9.06
Special requirement from customers	0.68	0.08	8.49
Possibility to change the order details	0.52	0.10	5.02
Possibility to offer a variety of characteristics, sizes, colors	0.49	0.11	4.55
Service rate	0.82	0.06	13.40
Delivery speed	0.72	0.08	9.44

Table no. 5.
 Financial performances. Analysis of the measurement model

Path		Se.	t Value
Profits	0.81	0.08	9.77
Costs	0.86	0.08	10.60
ROI	0.58	0.10	5.96

Table no. 6
 Marketing performances. Analysis of the measurement model

Path		St. errors	t Value
Increase in sales	0.82	0.05	15.04
Sales	0.96	0.04	22.75
Increase in market share	0.77	0.06	12.50

Table no. 7.
 Organizational performances. Analysis of the measurement model

Path		St. errors	t Value
Logistic performance	0.90	0.05	18.79
Financial performance	0.97	0.04	22.85
Marketing performance	0.87	0.05	17.71

Table no. 8.
 Structural model

Path		St. errors	t Value
Performances ← EO	0.10	0.15	0.62
Performances ← SCMS	0.79	0.14	5.75
SCMS ← EO	0.77	0.06	12.43