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A SUPPLY CHAIN ORIENTATION OF ENTERPRISES: AN EMPLOYEES' PERSPECTIVE

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Abstract

The main purpose of this paper is to report about examination how enterprises involved in supply chains are focusing their business. The pilot study draws upon management and supply-chain theories and analyzes answers of employees from Central and Western European enterprises. We outline how the applied management practices support enterprises participation in supply chains. Enterprises from Western Europe proved strong orientation on supply chain goals, followed by internal goals. Similarly, Central Europe enterprises show their strong orientation on supply chain, in comparison to their internal goals, but significantly lower than in Western Europe enterprises. The most prominent is finding that enterprises' focus on internal operations is positively associated with the supply chain orientation in Central Europe, while in Western Europe association is insignificant. In terms of theoretical implications, findings enable further research of supply-chain management-practice utilization for supporting or changing enterprises' participations in supply chain. Practical applications present a guideline for future decision-making about selection and use of management practice for enterprises' business and its orientation.

Keywords: Management tools, orientation, enterprise, supply chain, supply chain management

Introduction

The main purpose of this paper is to report about examination how enterprises' applied management tools (MTs) supported their Supply chain orientation. Supply chain management (SCM) has been widely adopted in operating of enterprises worldwide (Stock & Boyer, 2009; Chopra, 2018). Enterprises interest in SCM revealed their needs for improving of cooperation with their internal or external environment, and increasing of process performance results (Cooper et al., 1997; Trent, 2004; Van Assen et al., 2009); both



of them can sustain their successful competing in global markets (Lambert, 2014; Sluis & De Giovanni, 2016). Consequently, enterprises establish several close links and synergetic interdependences with others society's stakeholders (Stevens, 1990; Lambert & Enz, 2017); this leads to creation of various kinds and types of SCM integrations in environment (Mentzer et al., 2001; Attram & Attram, 2007; Skippari et al., 2017).

A significant body of management studies investigate growing enterprises' interest for creation of their participation in SCM through creation of individual SCM and inclusion in external SCM (Cox, 1999; Slack et al., 2006; Christopher & Holweg, 2017). The majority of studies focused on enterprise-, industry-, and institutional-level factors that influence the enterprises' participation in SCM, such as studies of the focal – i.e., multinational companies (Croxtton et al., 2001; Sluis & De Giovanni, 2016), supply networks in operational in nature (Stevens, 1990; Fayezi et al., 2017), particular industries (Horvath, 2001; Slack et al., 2006), and differences in contextual conditions for achievement of SCM goals (Dabic et al., 2013; Stevenson & Spring, 2007).

These studies broadened our understanding of the SCM – i.e., its definition, frameworks and terminology (Lambert et al., 1998; Naslund, Williamson, 2010). Additionally, some scholars suggest that more attention should be given to driving forces behind effective SCM (Horvath, 2001; Lambert & Enz, 2017), and broader understanding of core capabilities of SCM partners (Mentzer et al., 2001; Esper et al., 2010), as enterprises have the power to influence the direction and degree to which SCM initiatives are introduced in their operating (Lambert et al., 2005; Naslund, Williamson, 2010). This argument is based on the notion, that the adoption of these initiatives is the product of stream of enterprise's strategic decisions (Juttner & Christopher, 2013; Lambert & Enz, 2018), with which it manages its effective operating in SCMs (Sluis & De Giovanni, 2016; Christopher & Holweg, 2017).

More recent academics and practitioners focused their attention to supply chain orientation (SCO) (Esper et al., 2010; Ellram, Cooper, 2014), as enterprises' disposition for their integration to SCMs with development of strategic awareness and embracing of SCM within an individual supply chain firm (Mentzer et al., 2008; Omar et al., 2012). Researchers of achievement of inter- and intra-enterprise goals of enterprise's participation in SCM developed "a framework of SCO" which encompasses "SCO strategy and SCO structure" (Esper et al., 2010, p. 162).

However, some scholars suggest that more attention should be given to broader understanding of associations between the currently applied business solutions and enterprise design as part of SCO structure (Esper et al., 2010; Sluis & De Giovanni, 2016). The literature highlighted the impact of specific streams of applied management solutions and selected SCO implementation in enterprises (Mentzer et al., 2001; Slack et al., 2006). To the best of our knowledge, there is no study, which examines enterprise



orientation – e.g. toward internal orientation vs. supply chain orientation, through the lenses of the commonly used management solutions in enterprises.

The presented study contributes to this promising stream in the researches, by specifying and empirically testing a theory-driven model that links most used management solutions through consideration of management tools and existing orientation of enterprises participation in supply chains. Our model draws upon management theory through consideration of management tools (Armstrong, 2006; Van Assen et al., 2009), and SC's theory through consideration of SCM and SCO (Mentzer et al., 2001; Esper et al., 2010; Christopher & Holweg, 2017).

Following Whetten et al. (2009) and Podsakoff et al. (2012) recommendations on how to properly apply theories from different disciplines, we modified the selected theories to fit the specific objectives of the present contribution and used for analysis of survey among 71 employees in Western-European enterprises and 74 employees from Central-European enterprises.

Thus, this study suggests causal relationships between enterprises' SCO in SCM, and responds to several scholars' calls for a more holistic understanding of the impact of specific streams of management tools on the supply chain phenomenon (Christopher & Holweg, 2017; Lambert & Enz, 2017). The results of the study contribute to the theoretical expansion of the causal-relationship between individual and enterprise's SCOs. Practical implications outline complementary actions for future selection of MTs for improvement of enterprises participation in SCs.

Literature Review

Supply chain management

SCM has been gaining its popularity and importance among academic and practitioner communities from the early 1990s on (Lambert et al., 1998; Mentzer et al., 2001; Stock & Boyer, 2009). Despite the comprehensive theoretical foundations, SCM literature remains fragmented regarding the differences and sometimes confusing overlaps between individual SCM definitions (Gibson et al., 2005; Cooper et al., 1997; Mentzer et al., 2001; SCC, 2006; CSCMP, 2018). Especially, lack of a universally accepted conceptualization of SCM (Stock & Boyer, 2009; Naslund, Williamson, 2010), competing frameworks for SCM (Lambert et al., 2005; Bowersox et al., 2012), and less empirical evidences about benefits of SCM operating in specific circumstances (Cox, 1999; Attram & Attram, 2007) limited further application of SCM.

Present management studies exposed various methodological, content-related, and contextual solutions for operating of SCM (Lambert et al., 1998; Mentzer et al., 2008; Dubey et al., 2017). Additionally, authors revealed contradictory results about inclusion, application, and management of enterprises' participation in SCs' chains and/or networks (Lambert et al., 2005; Omar et al., 2012).



To avoid confusion given the available conceptualizations we use the definition of SCM as offered by Mentzer et al. (2001, p. 2), and adopted by others (Esper et al., 2010; Omar et al., 2012; Christopher and Holweg, 2017). They define SCM as “a systemic, strategic coordination of the traditional business functions within a particular company and across businesses within the supply chain, for the purpose of improving the long-term performance of the individual companies and the supply chain as a whole”.

Therefore, enterprises need to manage their relationships with other enterprises – i.e. “upstream” network of suppliers, and “downstream” network of distributors and customers, and to manage their own operating and behavior (Christopher & Holweg, 2017; Chopra, 2018). Researchers defined as “SCM framework” the entity of important dimensions and viewpoints (Metzer et al., 2001; Gibson et al., 2005; Lambert & Enz, 2017). The very often cited frameworks include SCOR model (Lochamy & McCormac, 2004), GSCF framework (Lambert et al., 1998), CPFR tool (Attran, Attran, 2007), and Mentzer Framework (Mentzer et al., 2001), among others.

Supply chain orientation

In management literature, SCM is considered through chain or network analogies, for assuring additional basic knowledge about contextual and methodological factors, which impact the enterprises’ participation and operating in SCM (Lambert et al., 1998; Choudhary et al., 2013).

In practice, each enterprise can choose appropriate ways and forms of its participation in SCM (Lambert et al., 1998; Fayezi et al., 2017). Consequently, SCM’s researchers established several kinds, types, and forms of relationships between the parts of different SCMs (Lambert et al., 1998; Bowersox et al., 2012; Christopher & Holweg, 2017).

The SCM idea itself presumes prevailing importance of whole SCM and its results in contradistinction to operating of SCM parts (Lambert et al., 1998; Mentzer et al., 2001). Consequently, SCM authors considered inclusion, characteristics and results of SCM member from the viewpoint of the whole SCM, which can enable the desired “synergetic operating and behavior of SCM” (Omar et al., 2012; Lambert & Enz, 2017).

While the significance of production integration for SCM has been noted (Lambert et al., 1998; Mentzer et al., 2008), the framework for further integration of SCMs is still not clearly understood (Gibson et al., 2005; Stevens, 1990). Less studied is systems based and process oriented functional integration of SCM, which can enable a simultaneous realization of rationalization and synergetic effects and their direct support to the formation and exploitation of competitive advantage of value chains in SCM (Stevenson & Spring, 2007; Carter et al., 2017). Specifically, the value chain theory views operating of SCM as a result of operations of its parts, tied together through a causal chain (Lambert & Enz, 2017; Chopra, 2018).



Management studies for enterprises participation in SCM (Choudhary et al., 2013; Ellram & Cooper, 2014; Mentzer et al., 2008), revealed different relationships between: level in which enterprise follows SCM, and necessary adaptation of enterprise operating and behavior for integration in SCM (Carter et al., 2017; Potocan & Nedelko, 2017). But issues about conceptualization of integration are less studied (Lambert et al., 1998; Mentzer et al., 2001; Omar et al., 2012) like relations between cooperation and integration (Wang et al., 2015), strategic and operational integrations (Esper et al., 2010), and scope of integration (Mentzer et al., 2008).

As academics like Stevens (1990), and Lambert and Enz (2017), suggested, we focused our study on existence of integration on different hierarchical levels. Previous studies reported about internal, intra-enterprise, and inter-enterprise integrations (Bowersox et al., 2012; Christopher, 2016). In that framework, we considered two possible orientations of SCM's members – i.e., internal enterprise and SCM orientation. Internal orientation expressed enterprise's orientation on its own goals and on rationalization of operating and behavior (Stevens, 1999; Lambert & Enz, 2017). Orientation on SCM exposed enterprise focus on SCM goals and SCM's optimization (Mentzer et al., 2008; Christopher & Holweg, 2017).

Management tools

In the last twenty years, academics and practitioners introduced over 200 new management ideas, which can enable enterprises' adaptation to demands and expectations of their stakeholders in modern society (Carter et al., 2017; Dubey et al., 2017).

But the management literature remains fragmented in analysis of different management ideas about the specific contextual and methodological frameworks (Armstrong, 2008; Van Assen et al., 2009). Especially, comparison of contextual different management ideas, which originated in specific management's philosophies and goals, is less examined (Potocan et al., 2012; Dabic et al., 2013; Dubey et al., 2017). In addition, enterprises conceptualize individual management idea through application of adequate appearance forms. They "range from concept, methodology, methods, techniques, to tools" (Potocan et al., 2012, p. 292). Each of the above mentioned appearance forms supports realization of specific needs and demands on individual levels of business operating - i.e., from strategic to operational level (Armstrong, 2006; Mentzer et al., 2008).

As academics like Armstrong (2006), and Carter et al. (2017) suggested, we focused our attention on management tools. We considered tools as "an entity of processes, exercises, and analytical frameworks that support implementation and realization of management ideas on the operational level of enterprise" (Potocan et al., 2012, p. 293).



The literature offers many evidences about utilization results of management tools in business (Lockamy & McCormac, 2004; Armstrong, 2006; Wang et al., 2015). Several studies reported about utilization of important individual or some contently similar management tools, like Just in Time, Total Quality Management, Supply Chain Management in enterprises (Croxtton et al., 2001; Choudhary et al., 2013). Studies about courses and characteristics of usage, satisfaction, and knowing of larger number or contently different management tools are less developed and mostly theoretical (Armstrong, 2006; Van Assen et al., 2009). Additionally, present studies revealed contradictory results about correlations between different streams of management tools applied in enterprises and achievement of officially defined and proclaimed goals of enterprises (Kannan, Tan, 2005; Choudhary et al., 2013; Lambert & Enz, 2017).

We therefore propose the following research questions for our study:

RQ1: How do the commonly used management tools support internal supply chain operation of enterprises?

RQ2: How do the commonly used management tools support supply chain orientation of enterprises?

Methodology

Instrument

We developed a research about knowledge, use and satisfaction with management tools in enterprises. We adopted and modified earlier surveys to assess utilization of management tools in enterprises (Potocan et al., 2012; Dabic et al., 2013; Potocan & Nedelko, 2017), where we added new questions (e.g. what are key factors for tools utilization); we developed a modified list of management tools, comprising 33 commonly used management tools in enterprises. The questionnaire consists of three parts; Part 1 – which measures the basic demographic data of respondents and their enterprises; Part 2 – which gathers general information about the use and knowledge of management tools in enterprises; and Part 3 – which assesses knowledge of, utilization of, and satisfaction with utilization of management tools.

Sample and procedure

The questionnaires were distributed in 2017 to the supply chain professionals in enterprises in Europe, USA, Asia, and Gulf area via email. The sample was determined following the sampling guidelines, which dictate that individuals, who are familiar with the examined phenomenon should be selected to the sample (Fetterman, 1988). We sent the questionnaires to the direct e-mail addresses of supply chain professionals obtained from enterprises websites.

The sample for this paper included 71 respondents from Western Europe and 74 from Central Europe. The aggregated sample of respondents included 60 percent males



and 40 percent females. The mean age of the respondents was 41.3 years, having on average 18.7 years of working experiences. In terms of education, 35.2 percent of participants graduated from high school, 55.2 percent from bachelor degree, 9 percent from master degree and 0.7 percent from Ph.D. In terms of position, 14.5 percent of respondents are professional, 13.1 percent are first-line managers, 45.5 percent are middle managers and 26.9 percent are top managers. Regarding enterprise size, 14.5 percent of respondents work in enterprises having below 250 employees, 80 percent in enterprises having between 250 and 1.000 employees, and 5.5 percent in enterprises having more than 1.000 employees. In terms of industry, 79.3 percent of participants work in enterprises involved in manufacturing and 20.7 percent work in enterprises involved in service.

Measures

Management tools utilization – each of 33 management tools in the survey had a Likert-type seven scale ranging from “very familiar” (1) to “very unfamiliar” (7). Participants choose one answer. Based on exploratory factorial analysis, using varimax rotation and principal component extraction of 33 management tools, we created two variables, for consideration in our study.

Internal enterprise orientation – is represented accurately and reliably by utilization of seven management tools i.e. – benchmarking, business process reengineering, balanced scorecard, total quality management, six sigma, change management programs, and decision right tools. Cronbach’s alpha coefficient is 0.739. Supply chain orientation – is represented accurately and reliably by utilization of seven management tools i.e. – customer relationship management, outsourcing, supply chain management, lean production, satisfaction and loyalty management, off-shoring and radio-frequency identification. Cronbach’s alpha coefficient is 0.727.

Research approach

In terms of research approach, we first outlined elements of descriptive statistics and zero-ordered correlations between variables of interest. Bivariate correlation analysis was used, followed by results of t-test. Next, we used hierarchical regression analysis to determine the impact of internal enterprise orientation on supply chain orientation, while also controlling the impact of selected control variables, like age, gender, education, position, enterprise size and industry of enterprise.

Results

Table 1 presents the mean values, standard deviations and zero-ordered correlations among variables in the research for the aggregated sample.



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Insert Table 1 here

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In line with aims of our study, several findings are noteworthy. First, there is association between internal enterprise orientation and supply chain orientation ($r = .24$, $p < .05$), which is in the center of our attention, Second, region is correlated with supply chain orientation ($r = .18$, $p < .05$), indicating that differences exists in supply chain orientation between enterprises from Western and Central Europe (see Table 2).

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Insert Table 2 here

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Next, we examine the impact of internal orientation of an enterprise on supply chain orientation (see Table 3). To predict enterprise's orientation toward supply chain we used regression analysis. In the first step, we entered controls (Model 1); in the second step we entered internal orientation of enterprise (Model 2).

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Insert Table 3 here

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Discussion

The most prominent is finding that enterprises focus on internal operations, also positively contributing to the supply chain orientation. This is contrary to the traditional trade-off between optimization of internal enterprise processes vs. optimization of the entire supply chain (Choudhary et al., 2013; Chopra, 2018). This could mean that the enterprises have over-come traditional stereotypes about necessary trade-off between optimization of internal enterprise vs. optimization of the entire supply chain Lambert & Enz, 2017). Positive influence of internal enterprise's orientation on supply chain orientation in Central Europe may reflect the deep involvement of Central-European enterprises into the supply chains of enterprises operation in most developed parts of the world, including Western Europe. A great proportion of enterprises from Central Europe act as suppliers to the more developed enterprises – i.e. being a part of these supply chains. Additionally, in some cases complete dependency of enterprises from Central Europe to the buyers form Western regions, expose their orientation on supply chain, since these enterprises need to comply with plethora of standards and standard operating procedures of Western enterprises.

Turning the picture around, the above findings can be backed up with our finding, that internal orientation does not impact supply chain orientation of Western enterprises. This reflects the "focal nature" of these enterprises; they are optimizing



their internal processes, while other should adopt to their operations, for instance suppliers from Central Europe.

Enterprises from Western Europe proved strong orientation on supply chain goals, followed by internal goals, which reflect their status of a focal company (Lambert et al., 1998; Lambert et al., 2005), around which the supply chain is build. Central Europe enterprises also show their strong orientation on supply chain, in comparison to their internal goals, but it is significantly lower than in Western Europe enterprises.

One can conclude that in both regions, enterprises put in the forefront their supply chain orientation although in the Central Europe the emphasis on supply chain orientation is still significantly lower, than in Western Europe. This may reflect that enterprises from Central Europe; (1) are not solely bonded to one or several supply chains; (2) act also as focal enterprises in other supply chain; or (3) have not yet developed and reached such levels of supply chain orientation as enterprises in Western Europe.

Implications, limitations and future research

In terms of implications, these findings have important implications for enterprises when deciding about strategy formulation and utilization of various possible management tools to support their operations, since results showed that focus on optimization of internal enterprise process, actually enhances the supply-chain management orientation, too. The significantly lower orientation on enterprises in Central Europe on supply chain, suggests that enterprises in Central Europe should consider this, when making decisions about enhancing their future supply chain orientation – i.e. adequate management tools should come in the forefront.

Some limitations of this study tackle the self-assessment nature of the study, limitation to the two regions, presupposing the impact of internal orientation on supply chain orientations, etc.

In terms of future research, it would be beneficial to know how single management tools support orientation of enterprises, either toward internal or external supply chain. The findings suggest that the region plays an important role in determining how internal orientation affect supply chain orientation. Thus, research is needed to determine how internal orientation affect supply chain orientation in other regions. Similarly, industry has significant impact on supply-chain in enterprise orientation; a deeper examination of its impact would also be beneficial.



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Table 1: Means, standard deviations and zero-ordered correlations among variables in the research for aggregated sample^a.

Variable	M	SD	1	2	3	4	5	6	7	8
1. Age	41.27	8.40	1							
2. Gender	1.40	.49	-.17*	1						
3. Education	2.74	.65	-.13	-.07	1					
4. Position	2.88	1.03	.49***	-.13	.12	1				
5. Enterprise size	3.87	.56	.03	.08	.25**	-.06	1			
6. Industry	1.21	.41	.00	-.14	-.11	-.10	-.40** *	1		
7. Region	1.51	.50	.50***	-.04	-.64** *	.24**	-.31** *	.16	1	
8. Supply chain orientation	3.86	1.08	-.10	.01	-.21**	-.25**	-.22**	.40***	.18*	1
9. Internal enterprise orientation	5.80	.89	-.24**	.05	-.21**	-.34** *	.06	-.11	.06	.24**

^a $N = 145$

* $p < .05$

** $p < .01$

*** $p < .001$



Table 2: Enterprise's orientation in Western and Central Europe^a.

Variables	Western Europe		Central Europe		t-test		
	Mean	SD	Mean	SD	t	df	Sig.
Internal enterprise	5.74	1.11	5.85	.61	-.74	107.91	.46
Supply chain orientation	3.66	1.23	4.06	.88	-2.23	126.10	.03



Table 3: Model results for predicting supply chain orientation^a

Variables	Western Europe		Central Europe	
	Model 1	Model 2	Model 1	Model 2
Block 1: Controls				
Age	-.54**	-.51**	.06	.08
Gender	.03	.04	-.04	-.08
Education	.17	.18	-.12	-.13
Position	.08	.10	-.23	-.17
Enterprise size	-.25**	-.24**	.08	.02
Industry	.41***	.42***	.39**	.47**
Block 2: Internal enterprise orientation				
Internal enterprise orientation		.05		.31**
<i>n</i>	71	71	74	74
R ²	.41	.41	.24	.32
Model F	7.47***	6.35***	3.57**	4.49***

^a Standardized regression coefficients are shown.

* $p < .05$

** $p < .01$

*** $p < .001$