From Learning to Knowledge: Analysis of Relationships between These Organizational Processes

Lejla Turulja
School of Economics and Business Sarajevo, Bosnia and Herzegovina
Nijaz Bajgorić
School of Economics and Business Sarajevo, Bosnia and Herzegovina

Abstract

Business globalization pressures and rapid technology advances increase the need for firms to continuously change, improve and adapt to changing business environment. Superior business performance is increasingly a function of firm's ability to develop and implement unique and valuable resources, i.e. dynamic capabilities. Among others, literature recognises organisational learning (OL) capability and knowledge management (KM) capability as two very important capabilities for the firms doing business in the knowledge-based economy. Thus, this study draws on dynamic capability view and organisation theory to clarify the nature of the relationships between OL capability and KM capability. The results show that OL capability positively influence KM capability. Furthermore, shared vision as well as openness and experimentation advance the KM capability while dialog and managerial commitment haven't been revealed to significantly influence KM capability. The study provides advances in the field of organisational learning and knowledge management literature by offering empirical analysis that confirm the importance of individual constructs of organisational learning capability for successful knowledge management.

Keywords: knowledge management, organisational learning, information technology, organisation theory, dynamic capabilities
JEL classification: M10, D83

Introduction

Business globalization pressures and rapid technology advances increase the need for firms to continuously change, improve and adapt to changing business environment. Superior business performance is increasingly a function of firm's ability to develop and implement unique and valuable resources, i.e. dynamic capabilities. Knowledge has become a critical resource of contemporary firms (Hsu & Sabherwal, 2011). In modern firms, knowledge is seen as a knowledge of the individual or collective knowledge. Therefore, among other factors, literature recognises organisational learning (OL) capability and knowledge management (KM) capability as two very important capabilities for the firms doing business in the knowledge-based economy. Thus, this study draws on dynamic capability view and organisation theory to clarify the nature of the relationships between OL capability and KM capability. The main objective of this study is to analyse theoretical and empirical relationship between OL and KM capability.

The paper is structured as follows. First, theoretical foundations of the study are presented. Then, concepts of organisational learning and knowledge management

are briefly explained. Third, methodological approach as well as process of data collection are introduced. Finally, data analysis, discussion and study conclusions are presented.

Literature Review

Theoretical Foundations

The theoretical foundations for this study are *Dynamic Capability View (DCV)* and *Organisation Theory (OT)*.

DCV is grounded on the research efforts to answer the question "What resources and capabilities have an impact on firm's business performance?". McKeown & Philip (2003)stated that contemporary firms operate in a time of fundamental and accelerated changes that are characterised by business and market globalization and the ubiquity of information technology. They highlighted the quote that It is not the strongest that survive, nor the most intelligent, but most adaptive(McKeown & Philip, 2003). Teece, Pisano, & Shuen (1997) noted that only those firms that have the ability of efficient coordination and redistribution of internal and external capabilities and resources in order to timely respond to the needs and demands of the market can be competitive at the global market. Consequently, they presented a theory of dynamic capabilities based on the assumption that firms which own and constantly improve, expand and configure its resource base in creating dynamic capabilities will be able to achieve sustainable competitive advantage. Literature recognizes different dynamic capabilities that are critical for contemporary firms with the knowledge being one of the most important capabilities(Pun & Nathai-Balkissoon, 2011; Apak, Tuncer, Atay, & Naime, 2012; Nezam, Ataffar, Isfahani, & Shahin, 2016; Martinez-Conesa, Soto-Acosta, &Carayannis, 2017).

Organisation theory is characterised by its diversity of approaches resulting in multiple schools of thought(Sailer & Penn, 2010; McKinley, Mone, & Moon, 1999). There are many approaches within organisation theory, but the primary object is broadly defined as "organization", which includes different kinds of organizations as well as organizational activities and processes. Hatch & Cunliffe (2013) discussed three perspectives of organisation theory. First, modern perspective focus on discovering the universal principles and laws that govern organizations and it emphasizes structure, rules, standardization, and routine. Second, symbolic perspective describes how life unfolds within the organizational context in rituals and other meaningful activities in order to produce understanding of how organizing happens. Finally, postmodern perspective focus on appreciating and deconstructing organizational texts so as to reveal managerial ideologies and destabilize modernist modes of organizing and theorizing.

In the light of the discussion, this study draws on organisation theory and its modern perspective, in order to discover the principles regarding the relationships between the processes of organisational learning and knowledge management.. In addition, it draws on dynamic capability view to analyse the impact of those processes on the organisational business performance.

McKinley et al. (1999)pointed out that most of the theorists in organisation theory focus on the way how firms perform the business; specifically, the processes that are used in generating organizational knowledge. Two management disciplines address the knowledge in the firm: i) organisational learning; and ii) knowledge management.

Organisational Learning Capability

Knowledge has been recognised as a critical resource of contemporary organisations where knowledge is seen as "a knowledge of the individual" or "collective knowledge". Collective or organisational knowledge comes from the integration of knowledge; it is a combination of coordinated efforts by several individuals who have different but complementary skills (Grant, 1996). Organizational knowledge exists in firm's documents and systems for data storage, as well as in the routines and processes. Therefore, organizational knowledge is the result of the organizational learning processes which involves processes that range from the level of the individual to the level of the group and the firm, and back (Jerez-Gómez, Céspedes-Lorente, & Valle-Cabrera, 2005). In other words, organizational learning is a process through which firms learn(Alegre & Chiva, 2008). Organizational learning is one of the key determinants of business performance of the contemporary firm. OL capability refers to a set of factors that influence the firm's tendency to learning, i.e., organizational learning can be understood as set of processes, while learning capability refers to those characteristics that make it possible for firms to learn (Prieto & Pérez-Santana, 2014; López-Cabrales, Real, & Valle, 2011). In other words, organisational learning capability refers to organisational and managerial characteristics that facilitate the organisational learning process or allow an organisation to learn(Chiva, Alegre, & Lapiedra, 2007).

OL capability is conceptualised as a multidimensional construct with the following dimensions: managerial commitment; shared vision; openness and experimentation; and dialog(Calantone, Cavusgil, & Zhao, 2002; Chiva et al., 2007).

- *Managerial commitment* refers to the management attitudes that promote and motivate innovative organisational culture as well as individual learning that presents the first step towards organisational learning.
- *Shared vision/system perspective* relates to the gathering of all employees around a common identity and a common vision.
- *Openness and experimentation* implies organisational culture and climate that promote acceptance of new ideas and attitudes as well as tolerance of ambiguity, uncertainty and errors. It promotes creating an environment that allows risk taking.
- *Dialog* relates to continuous collective involvement in the processes, assumptions and beliefs that make every day experiences.

Knowledge Management Capability

Many authors have investigated the importance of successful knowledge management in a firm and the general conclusion is that, in order to maintain their competitive advantage in a dynamic environment, firms must develop the knowledge management capability, i.e. dynamic capability to create and modify knowledge over time (L. Chen & Fong, 2013). Davenport & Prusak (1997)state that most of the knowledge management processes have one of the following three objectives: i) to make knowledge visible and emphasize the role of knowledge in the company; ii) to develop a culture that will encourage the acquisition and sharing of knowledge; and iii) to build a knowledge infrastructure, which includes the IT system and network to enable communication and encourage cooperation. Knowledge management refers to the processes of acquisition, conversion and application of knowledge. Knowledge management capability aims to explore, assimilate, and exploit knowledge both inside and outside a firm's boundaries(L. Chen & Fong, 2013).

KM capability is conceptualised as a multidimensional construct with following dimensions: knowledge acquisition; knowledge conversion; and knowledge application (Liao & Wu, 2009).

- *Knowledge acquisition* refers to the processes that seek and acquire knowledge and create new knowledge, i.e. processes of obtaining and accumulating knowledge(Cui, Griffith, & Cavusgil, 2005).
- *Knowledge conversion* is related to the processes of making existing knowledge useful. Processes that are included in the conversion are organisation, integration, coordination and dissemination of knowledge (Cui et al., 2005).
- *Knowledge application* refers to the processes of using knowledge. Cui et al. (2005) noted that these processes include storage, retrieval, application, contribution, and sharing of knowledge.

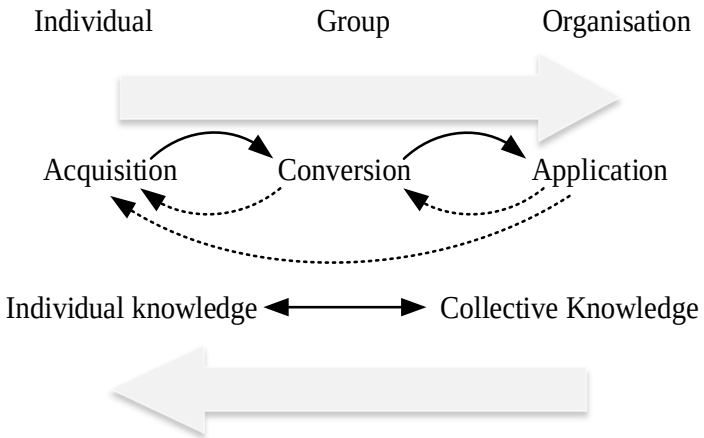
Theoretical model and hypotheses

Literature review has been conducted in order to identify the relationship between OL capability and KM capability. The main conclusion of the literature review that address this relationship is that OL influence KM.

Organisation Learning Capability and Knowledge Management Capability

Organisational learning is grounded in individual learning (Pun & Nathai-Balkissoon, 2011). OL stems from the knowledge acquisition of the individual employees and progresses with the exchange and integration of the knowledge until a corpus of collective knowledge is established (Jerez-Gómez et al., 2005). These processes should be embedded in organisational culture. Thus, management should be committed to creation of such organisational culture that promote learning, experimentation, dialog and shared values. In other words, OL could be considered as a climate and culture that promote these values.

Figure 1
Process of organisational learning



Source: Jerez-Gómez et al. (2005)

At the other side, knowledge management refers to the processes that helps organisations to find, select, organise, disseminate, transfer and use knowledge in

organisation (Pun & Nathai-Balkissoon, 2011). In other words, OL support employees' learning while KM identify their knowledge in collecting it into an organisational knowledge corpus. Organizations would not be able to manage knowledge if it does not exist, and the assumption of the existence of knowledge is the climate of organizational learning. This interaction between the OL and KM is presented in Figure 1.

Based on the discussion, following hypothesis is proposed:
H1. OL capability positively influences KM capability.

However, when it comes to the individual constructs of OL capability, there is a research gap related to the question: which of the OL constructs has the greatest significance for management, or whether or not all of those constructs have the same impact on KM. Therefore, the following hypotheses are suggested:
H1a. Managerial commitment positively influences KMcapability.
H1b. Shared vision positively influences KMcapability.
H1c. Openness and experimentation positively influence KMcapability.
H1d. Dialog positively influences KMcapability.

Organisation Learning Capability / Knowledge Management Capability and Business Performance

Organisational learning supports both learning and innovative culture which result in better organisational performance. OL is critical antecedent of innovation in firms (Jerez-Gómez et al., 2005). The firms that learn faster and use knowledge most effectively are most likely to become and remain leaders (Pun & Nathai-Balkissoon, 2011). Knowledge is undoubtedly the most important resource of a new era, and the most valuable resource that a firm can dispose of. The real differentiation among firms can be done on the basis of learning and knowledge. Only firms that learn and generate knowledge can use it in the innovation of its products, services and processes. Following these premises, two hypotheses are proposed:
H2. OL capability positively influences organisational business performance.
H3. KM capability positively influences organisational business performance.

Research Methodology

Primary data were collected using questionnaire methodology and convenient sampling technique. The target population were small, medium and large firms operating in the market of Bosnia and Herzegovina. Respondents were general managers familiar with OL and KM processes. The questionnaire consisted of indicators that measure OL capability and KM capability. These indicators are adopted from previous studies. Sample of 403 firms represents a base for data analysis and proposed model testing.

Measures

All indicators are measured using seven-point Likert scales ranging from 1 – strongly disagree to 7 – strongly agree.

- OL capability is reflective second order latent construct with four first order dimensions: managerial commitment, shared vision, openness and experimentation and dialog. It consists of fourteen indicators adopted from Calantone et al. (2002), Akgün, Keskin, Byrne, & Lynn (2014) and Alegre & Chiva (2013).

- KM capability is reflective second order latent construct with three first order dimensions: knowledge acquisition, knowledge conversion, and knowledge application. It consists of thirteen indicators adopted from Liao & Wu (2009).
- Organisational business performance is reflective first order construct of four indicators measuring organisation's profit, sale, and return on investment comparing to main competitors as well as the realization level of the planned market share. Indicators are adopted from Chen, Tsou, & Huang (2009).

Results and Discussion

In order to test the hypotheses, two conceptual models are proposed. The first one with hypotheses H1, H2 and H3, which address relationship between OL capability and KM capability as well as their impact on organisational business performance. Second model deals with hypotheses H1a, H1b, H1c, H1d, i.e. the relationship between individual constructs of OL capability and KM capability. SPSS 22 and Lisrel 8.8 have been used for data analysis.

Table 1
Measurement Models Analysis – CFA results

Factor	Code	St. loadings	Cronbach alpha
Knowledge Acquisition (KMA)	KMA1	0.754	0.882
	KMA2	0.773	
	KMA3	0.805	
	KMA4	0.803	
	KMA5	0.740	
Knowledge Conversion (KMK)	KMK1	0.867	0.912
	KMK2	0.864	
	KMK3	0.922	
	KMK4	0.872	
Knowledge Application (KMP)	KMP1	0.875	0.878
	KMP2	0.888	
	KMP3	0.691	
	KMP4	0.697	
KM capability: $\chi 2/df=2.78$; RMSEA=0.0666; SRMR=0.0339; CFI=0.989; NFI=0.983			
Managerial Commitment (LM)	LM1	0.873	0.926
	LM2	0.855	
	LM3	0.862	
	LM4	0.827	
Shared Vision (LV)	LV1	0.784	0.909
	LV2	0.890	
	LV3	0.878	
	LV4	0.837	
Openness and Experimentation (LE)	LE1	0.751	0.814
	LE2	0.790	
	LE3	0.801	
Dialog (LD)	LD1	0.852	0.907
	LD2	0.857	
	LD3	0.919	
OL capability: $\chi 2/df=2.79$; RMSEA=0.0667; SRMR=0.0361; CFI=0.988; NFI=0.982			
Organizational Business Performance (BP)	OBP1	0.933	0.889
	OBP2	0.852	
	OBP3	0.856	
	OBP4	0.623	
OBP: $\chi 2/df=2.61$; RMSEA=0.0632; SRMR=0.0124; CFI=0.997; NFI=0.995			

Prior to models testing, Confirmative Factor Analysis (CFA) has been used in order to assess the reliability and validity of measurement models. All Goodness of Fit (GoF)

indices are above/below threshold values which indicates good fit for all measurement models, i.e. χ2/df<5; RMSEA<0.1; SRMR<0.8; CFI>0.9; NFI>0.95. Furthermore, standardised loadings of all indicators are above 0.5 which implies dimensions reliability while Cronbach alpha values above 0.7 indicate convergent validity.

Following confirmation of overall fit as well as reliability and validity of measurement models, Structural Equation Modelling is employed in order to test structural model proposed within this study. Results revealed acceptance of two hypotheses. Specifically, OL capability positively influence KM capability (β=0.809; t=11.552; p<0.01) and organisational business performance (β=0.333; t=3.156; p<0.01). However, this study failed to prove significant relationship between KM capability and organisational business performance. This result is not completely unexpected. Many previous studies analysed mediating and moderating effect of other organisational capabilities and business performance. In other words, knowledge management should create additional value that will result with better business performance. Specifically, KM capability could enhance firm's innovation (Ju, Li, & Lee, 2006; Lai & Lin, 2012), while innovation has positive impact on business performance (Calantone et al., 2002; Kyrgidou & Spyropoulou, 2012). The proposed model fits the data and all the indices are within the required values.

Table 2
Hypotheses Testing

Hypotheses	St. loadings	t-values	p-value	Result
H1. OLC → KMC	0.809	11.552	0.0001	Supported
H2. OLC → OBP	0.333	3.156	0.0017	Supported
H3. KMC → OBP	0.078	0.756	0.4500	Rejected
χ2/df=2.43; RMSEA=0.0596; SRMR=0.0577; CFI=0.984; NFI=0.974				

In addition, with the aim to clarify the nature of the relationships between OL and KM capability and to offer practical implication for managers regarding OL activities and dimensions that should be more encouraged to improve the KM capability, the relationship between the individual dimensions of OL and KM capability is analysed.Results revealed acceptance of two hypotheses. Specifically, shared vision positively influence KM capability (β=0.246; t=3.575; p<0.01) and openness and experimentation is positively associated with the KM capability (β=0.618; t=4.493; p<0.01). That is, gathering of all employees around a common identity and a common vision as well as organisational culture that promote acceptance of new ideas and attitudes as well as tolerance of ambiguity, uncertainty and errors will results in better KMprocesses of acquisition, conversion and application of knowledge.

Table 3
Hypotheses Testing

Hypotheses	St. loadings	t-values	p-value	Result
H1a. LM → KMC	0.060	0.769	0.4425	Rejected
H1b. LV → KMC	0.246	3.575	0.0004	Supported
H1c. LE → KMC	0.618	4.493	0.0000	Supported
H1d. LD → KMC	-0.073	-0.802	0.4232	Rejected
χ2/df=2.57; RMSEA=0.0624; SRMR=0.0477; CFI=0.986; NFI=0.977				

However, managerial commitment as well as dialog didn't appear to have significant impact on KM capability. Specifically, management attitudes that promotes and motivate innovative organisational culture and individual learning don't have significant impact on the KM processes. A possible explanation for the results lies in the fact that other organizational processes should moderate the relationship between the two activities and KM capability in order to strengthen these relationships. Thus, for example HRM could facilitate organisational learning activities in order to strengthen the relationship between OL and KM capability.

Conclusion

The paper aimed at analysing the relations between organisational learning capability and knowledge management capability. In this respect, the theoretical foundations were identified in the forms of dynamic capability view and organisation theory. The results show that OL capability positively influence KM capability. Furthermore, shared vision as well as openness and experimentation advance the KM capability, while dialog and managerial commitment haven't been revealed to significantly influence KM capability. The study provides advances in the field of organisational learning and knowledge management literature by offering empirical analysis that confirms the importance of individual constructs of organisational learning capability for successful knowledge management. While there has been an underlying assumption about the role of organizational learning for knowledge management, this study provide evidence on how OL dimensions such as management commitment, shared vision, openness and experimentation and dialog may be adjusted to facilitate and promote the enhancement of KM processes. Contrary to previous studies, this paper presents an analysis of simultaneous impacts of a set of OL practices on KM capability.

References

1. Akgün, A. E., Keskin, H., Byrne, J. C., Lynn, G. S. (2014), "Antecedents and consequences of organizations' technology sensemaking capability", Technological Forecasting and Social Change, Vol. 88 No. 101, pp. 216–231.
2. Alegre, J., Chiva, R. (2008), "Assessing the impact of organizational learning capability on product innovation performance: An empirical test", Technovation, Vol. 28 No. 6, pp. 315–326.
3. Alegre, J., Chiva, R. (2013), "Linking entrepreneurial orientation and firm performance: The role of organizational learning capability and innovation performance", Journal of Small Business Management, Vol. 51 No. 4, pp. 491–507.
4. Apak, S., Tuncer, G., Atay, E., Naime, İ. K. (2012), "Insights From Knowledge Management to Radical Innovation: "Internet Banking Applications in the European Union," Procedia - Social and Behavioral Sciences, Vol. 41, pp. 45–50.
5. Calantone, R. J., Cavusgil, S. T., Zhao, Y. (2002), "Learning Orientation, Firm Innovation, and Firm Performance", Industrial Management & Data Systems, Vol. 31, pp. 515–524.
6. Chen, J.-S., Tsou, T. T., Huang, A. Y.-H. (2009), "Service Delivery Innovation: Antecedents and Impact on Firm Performance", Journal of Service Research, Vol. 12 No. 1, pp. 36–55.
7. Chen, L., Fong, P. S. W. (2013), "Visualizing Evolution of Knowledge Management Capability in Construction Firms", Journal of Construction Engineering and Management, Vol. 139 No. 7, pp. 839–851.
8. Chiva, R., Alegre, J., Lapiedra, R. (2007), "Measuring organisational learning capability among the workforce", International Journal of Manpower, Vol. 28 No. 3/4, pp. 224–242.
9. Cui, A. S., Griffith, D. A., Cavusgil, S. T. (2005), "The Influence of Competitive Intensity

and Market Dynamism on Knowledge Management Capabilities of Multinational Corporation Subsidiaries", Journal of International Marketing, Vol. 13 No. 3, pp. 32–53.
10. Davenport, T. H., Prusak, L. (1997), Information ecology: Mastering the information and knowledge environment, Oxford University Press on Demand.
11. Grant, R. (1996), "Toward a knowledge based theory of the firm", Strategic Management Journal, Vol. 17 No. 17, pp. 109–122.
12. Hatch, M. J., Cunliffe, A. L. (3013), Organization Theory: modern, symbolic and postmodern perspective, Oxford, University Press, UK.
13. Hsu, I.-C., Sabherwal, R. (2011), "From Intellectual Capital to Firm Performance: The Mediating Role of Knowledge Management Capabilities", IEEE Transactions on Engineering Management, Vol. 58 No. 4, pp. 626–642.
14. Jerez-Gómez, P., Céspedes-Lorente, J., Valle-Cabrera, R. (2005), "Organizational learning capability: A proposal of measurement", Journal of Business Research, Vol. 58 No. 6, pp. 715–725.
15. Ju, T. L., Li, C.-Y., Lee, T.-S. (2006), "A contingency model for knowledge management capability and innovation", Industrial Management & Data Systems, Vol. 106 No. 6, pp. 855–877.
16. Kyrgidou, L. P., Spyropoulou, S. (2012), "Drivers and Performance Outcomes of Innovativeness: An Empirical Study", British Journal of Management available at: https://doi.org/10.1111/j.1467-8551.2011.00803.x (21 March 2017)
17. Lai, Y., Lin, F. (2012), "The Effects of Knowledge Management and Technology Innovation on New Product Development Performance -An Empirical Study of Taiwanese Machine Tools Industry", Procedia - Social and Behavioral Sciences, Vol. 40, pp. 157–164.
18. Liao, S., Wu, C. C. (2009), "The relationship among knowledge management, organizational learning, and organizational performance", International Journal of Business and Management, Vol. 4 No. 4, pp. 64–76.
19. López-Cabrales, Á., Real, J. C., Valle, R. (2011), "Relationships between human resource management practices and organizational learning capability: The mediating role of human capital", Personnel Review, Vol. 40 No. 3, pp. 344–363.
20. Martinez-Conesa, I., Soto-Acosta, P., Carayannis, E. G. (2017), "On the path towards open innovation: Assessing the role of knowledge management capability and environmental dynamism in SMEs", Journal of Knowledge Management, Vol. 21 No. 3, JKM-09-2016-0403, available at: https://doi.org/10.1108/JKM-09-2016-0403 (19 February 2017)
21. McKeown, I., Philip, G. (2003), "Business transformation, information technology and competitive strategies: Learning to fly", International Journal of Information Management, Vol. 23 No. 1, pp. 3–24.
22. McKinley, W., Mone, M. A., Moon, G. (1999), "Determinants and devopment of schools in organization theory", Academy of Management Review, Vol. 24 No. 4, pp. 634–648.
23. Nezam, M. H. K., Ataffar, A., Isfahani, A. N., Shahin, A. (2016), "Human capital and new product development performance efficiency-the mediating role of organisational learning capability", International Journal of Innovation and Learning, Vol. 20 No. 1, pp. 26–46.
24. Prieto, I. M., Pérez-Santana, M. P. (2014), "Managing innovative work behavior: the role of human resource practices", Personnel Review, Vol. 43 No. 2, pp. 184–208.
25. Pun, K. F., Nathai-Balkissoon, M. (2011), "Integrating knowledge management into organisational learning", The Learning Organization, Vol. 18 No. 3, pp. 203–223.
26. Sailer, K., Penn, A. (2010), "Towards an Architectural Theory of Space and Organisations : Cognitive, Affective and Conative Relations in Workplaces", 2nd Workshop on Architecture and Social Architecture, EIASM, Brussels.
27. Teece, D. J., Pisano, G., Shuen, A. (1997), "Dynamic Capabilities and Strategic Management David", Strategic Management Journal, Vol. 18 No. 7, pp. 509–533.

About the authors

Lejla Turulja, Ph.D. is an Assistant Professor at the School of Economics and Business, University of Sarajevo. Her main research interests are information and communication technology, knowledge management, innovation management, HR and KM information systems, e-business. She was actively engaged in number of science projects. Lejla Turulja published several scientific papers in recognised journals and participated in many scientific international conferences. Author can be contacted at **lejla.turulja@efsa.unsa.ba**.

Nijaz Bajgorić is a Professor of Business Computing and Information Technology Management at the School of Economics and Business, University of Sarajevo. He has published papers in Intl. Journal of Business Continuity and Risk Management, Intl. Journal of Enterprise Information Systems, Kybernetes, Information Management and Computer Security, Information Systems Management, Industrial Management and Data Systems, Intl. Journal of Production Research, European Journal of Operational Research, Intl. Journal of Agile Management Systems, Journal of Concurrent Engineering. He published two books: „Continuous Computing Technologies for Enhancing Business Continuity" (an authored book) and "Always-On Enterprise Information Systems for Business Continuance: Technologies for Reliable and Scalable Operations" (an edited book), and authored/co-authored chapters in the edited books published by Wiley, Elsevier, Kluwer, Taylor&Francis, IGI-Global, IOS Press, CRC Press, and Auerbach. Author can be contacted at **nijaz.bajgoric@efsa.unsa.ba**.