# UNIVERSITIES AS LEARNING ORGANIZATIONS: CHALLENGES AND STRATEGIES

### **Constantin BRĂTIANU**

Bucharest University of Economic Studies 6 Piata Romana, Sector 1, Bucharest, Romania constantin.bratianu@gmail.com

Abstract: The purpose of this paper is to demonstrate that universities can increase their competitiveness and their ranking positions in this turbulent economic environment by transforming into learning organizations. Although universities have been created as places dedicated to teaching and learning, they are not learning organization by default. There is a widespread confusion between the process of individual learning, which is specific for students learning, and organizational learning, which is an organizational process developing at the university level. A university can become a learning organization if and only if its leadership creates strategies for transforming local and spontaneous organizational learning into a generic and organization-wide process based on clearly defined strategies. The university governance should become a strategic driving force and knowledge management should replace the traditional administration management. Universities in the knowledge economy need to create and disseminate new knowledge and to contribute through research and innovation to the community development. Thus, the vision and mission of the university should incorporate new attributes and the academic leadership should be able to implement all of these changes in the operational academic management. The methodology used in this paper is based on literature review and a conceptual analysis concerning the challenges of the university for the  $21^{st}$  century. The results show that universities can become learning organizations if and only if their leadership create a set of specific conditions and all the members of the academic community share the new vision and mission developed by the university leaders.

*Keywords*: university leadership, organizational learning, learning organization, knowledge management, intellectual capital

# Introduction

Universities of the 21<sup>st</sup> century face new challenges from the knowledge economy and must perform in a fierce global competition (Bratianu & Pinzaru, 2015; Duderstadt, 2000; Hadad, 2017; Prelipcean & Bejinaru, 2016; Shattock, 2006). The ranking systems of the world universities generate new pressures for performance and offering best undergraduate and graduate study programs. In the same time, universities face a strong competition for intellectual and financial resources. They have to adapt their vision and mission to the new requirements for knowledge generation and innovation, and transferring intellectual property toward society (Dima, 2014; Sanchez et al., 2009; Secundo et al., 2010; Shattock, 2013; Vătămănescu et al., 2015).

The *learning organization* is a metaphor which has been extensively used especially after the widely acclaimed book *The fifth discipline: The art & practice of the learning organization* published by Peter Senge in 1990. In this book, Senge considers *the learning organization* a social invention. While engineering inventions are composed of

tangible components, social inventions are composed of intangible components called *disciplines*. A discipline is essentially "a body of theory and technique that must be studied and mastered to be put into practice" (Senge, 1999, pp.10-11). An organization can become a learning organization if and only if its leadership develop and implement adequate strategies for stimulating and amplifying organizational learning (Argote, 2013; Garratt, 2001; Örtenblad, 2011; Starbuck & Hedberg, 2003).

Successful universities, which are world-class universities (Bejinaru & Prelipcean, 2017) made great transformations in becoming *learning organizations* by developing new dynamic capabilities (Teece, 2009) and a strategic governance (Mok, 2008; Mora, 2001). The purpose of this paper is to show what are the necessary requirements for a university to become a learning organization, and how to develop knowledge strategies for increasing its intellectual capital and competitiveness in the turbulent environment of this century. The structure of the paper is as follows: after this brief introduction, we present the basic features of the learning organization, then we consider university governance and leadership as the driving forces for its transformation into a learning organization. We close the paper with some final remarks and further research to be done.

# **Organizational learning**

*Organizational learning* is a metaphor since only people have the natural ability of knowledge processing and learning. As Argyris remarks (1999, p.7), "When we begin by assuming that individuals are the only proper subjects of learning and that individuals learn, then we are likely to be puzzled and disturbed by the notion that learning may also be attributed to organizations". Organizational learning is a process of transferring knowledge from individuals to a social structure which is able of developing a specific memory and specific routines in its collective behavior. It is a learning process through social interactions. Through organizational learning "whole organizations or their components adapt to changing environments by generating and selectively adopting organizational routines" (Argyris, 1999, p. 8). Crossan et al. (1999, p. 523) define four premises for an effective organizational learning:

-Organizational learning assumes a tension between knowledge exploitation and knowledge exploration.

-Organizational learning is a multilevel process (i.e. individual, group, organization).

-The three levels of organizational learning are linked through psychological and social processes: intuiting, interpreting, integrating, and institutionalizing (4I's).

-Cognition influences action, and action influences cognition.

Following this organizational learning model, we can see that there is a feedback direction and a feedforward one. The feedforward reflects knowledge exploration, and it promotes learning from individuals and groups to organizations, where new knowledge will be integrated into routines, procedures and strategies. Feedback reflects knowledge exploitation and institutionalizes the learning results.

*Intuinting* is a dominant unconscious process which is based on pattern recognition and analogy. When time or complexity of the new problem become constraints, the cognitive unconscious tries to find a solution by simplifying the context and finding similar patterns for a possible solution. Intuinting is a fast process but the probability of error is high, especially for people who are beginners in a certain domain. Intuinting works well for experts, who accumulated thousands of hours of experience in a specific domain of activity (Gladwell, 2005, 2008; Kahneman, 2011). Intuinting is based on processing emotional information and knowledge (Bratianu & Orzea, 2013; Hill, 2008). Interpreting operates at the interface between individual and group levels. It is the sequence of externalization of that intuition and explaining it through combination to others (Nonaka & Takeuchi, 1995). Interpreting is a social process when sharing knowledge and values leads to group learning (Bratianu & Orzea, 2010a). Integrating is a social process which operates at the group level and at the interface between groups. Integrating is an essential process in transforming the potential of the intellectual capital into operational intellectual capital, and in initializing action through decision making (Bratianu, 2018; Bratianu et al., 2011). Institutionalizing operates at the organization level through new routines. Organizational learning is completely different than the individual learning, since the outcomes belong now to the whole organization: "Although individuals may come and go, what they have learned as individuals or in groups does not necessarily leave with them. Some learning is embedded in the systems, structures, strategy, routines, prescribed practices of the organization, and investments in information systems and infrastructure" (Crossan et al., 1999, p.529). Although these phases have been presented in a sequential way, they may manifest simultaneously since organizational learning is a complex and nonlinear process (Bratianu, 2013; Bratianu & Vasilache, 2010).

# Learning organizations

As mentioned before, the learning organization is a metaphor created to define the organization where managers create strategies to extend organizational learning throughout the company. Örtenblad (2001, p. 126) makes a clear distinction between the process of organizational learning and the learning organization "Organizational learning means processes or activities (of learning) in the organization, while the learning organization is a form of organization in itself". Organizational learning may happen locally in any organization, but only few of them can become learning organizations if they develop and practice the five disciplines defined by Senge (1999): personal mastery, mental models, shared vision, team learning, and systems thinking. Personal mastery stimulates personal motivation to never stop learning and improving the professional competences. Mental models focus on the capacity of creating some simplified cognitive models of the real world which help managers in understanding the business environment and in making decisions. The better the cognitive approximations are the deeper understanding managers get for solving practical problems. Shared vision means to focus on the future of the organization and on designing business strategies to achieve competitive advantage (Bratianu, 2017a, b). Finally, the system thinking integrates all the other four disciplines and creates the framework for the learning organization (Gharajedaghi, 2006; Senge, 1999). Systems thinking is related also to the concepts of emergence and self-organization. Emergence refers to the capacity of the whole to generate new properties which cannot be found at the level of any components. When there is an emergence of a stable dynamic structure, the new phenomenon is called self-organization (Sherwood, 2002, p.15).

Garvin (2000, p.11) defines a learning organization as being "an organization skilled at creating, acquiring, interpreting, transferring, and retaining knowledge, and at purposefully modifying its behavior to reflect new knowledge and insights". Thus, one of the main features of the learning organization comes from its capacity to create new

knowledge and learn to adapt to new and complex situations. Senge (1999) makes the distinction between adaptive learning and generative learning. *Adaptive learning* is based on a process of extrapolation of the present into the future by small changes designed on a short-term perspective and predictable results. *Generative learning* is based on interpolation of the future and designing complex changes on a long-term perspective. While adaptive learning makes use of knowledge exploitation, generative learning makes use of knowledge exploitation.

Garvin et al. (2008) developed an assessment tool for learning organizations able to measure the depth of organizational learning. This metric is based on the assumption that there are three basic building block of the learning organization: a supportive learning environment, concrete learning processes and practices, and leadership that reinforce learning. A supportive learning environment is a necessary condition for creating a climate of psychological safety. That will allow managers and employees to learn from both their successes and mistakes. Also, they will be more creative since there is no fear of being penalized for eventual errors in their decisions and actions. A supportive learning environment creates an open space for new ideas and stimulates people for reflection and collective decision-making. The second block refers to concrete *learning processes and practices.* Learning implies knowledge processing and testing new ideas, which finally lead to a better understanding of a given context and to a change in the organizational behavior. Learning can be stimulated by knowledge sharing which contributes to a higher average level of organizational knowledge as a result of a redistribution of knowledge. A specific role is played by intergenerational learning which can be very successful in the generation-layered organizations (Bratianu & Orzea, 2012; Lefter et al., 2011). The third block refers to the leadership that reinforces learning. Transforming an organization where organizational learning may happen occasionally and locally into a learning organization needs a transformational leadership capable of integrating all necessary resources and local organizational learning processes based on a well-defined vision and mission. Transformational leadership (Bass & Riggio, 2006; Bratianu & Anagnoste, 2011) is based on strategic thinking and change management. It challenges all employees to find solutions for a better organization with a dynamic culture (Ghinea & Bratianu, 2012) and an intelligent approach to competition and performance.

# Universities as learning organizations

Universities are knowledge-intensive organizations with natural organizational learning processes but many of them have no shared vision for becoming learning organizations (Bratianu, 2009, 2014). The structure of any university contains departments and schools for the academic part and different offices for the administration part. In each department or office people may share their knowledge and contribute to organizational learning, but if there are no strategies at the university level to stimulate and develop organizational learning then the university cannot transform itself into a learning organization. In other words, a university may become a learning organization if and only if there are fulfilled the following concomitant conditions: the existence of a supportive learning environment, the existence of concrete learning processes, and a learning leadership able to produce change and transform the organization (see Figure 1).

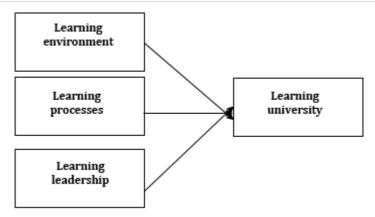


Figure 1. The necessary conditions for a university to become a learning organization (Source: Author contribution)

# Learning environment

Although Garvin et al. (2000) refer to the internal organizational environment, we emphasize the importance of the external environment as well, especially for the state universities in Europe (Bratianu et al., 2016; Christopher, 2012). Legislation and culture constitute powerful driving forces in shaping the organizational behavior and in any managerial decisions. Since most of the European universities are state universities, their governance doesn't have a full autonomy, which creates a rather significant dependence on the governmental financing system. In turn, this dependence induces some limitations in the academic management decisional process. For instance, if the financial system provides payments based on a yearly metric, a university is not able to sign contracts for a larger period of time even if that contracts may have a beneficial outcome for the university. Thus, creating real university autonomy is an integral part of the supportive external environment (Bratianu et al., 2016; Curaj et al., 2012).

The internal learning environment can be achieved through a dynamic organizational culture which integrates a motivational system able to stimulate organizational learning and a visionary leadership able to challenge the unpredictable future and solve the stupidity paradox (Alvesson & Spicer, 2016; Song & Lee, 2014). "Organizational culture is a compass that gives people direction, but it is also a prison that limits their freedom. Culture guides and integrates, but also blind and stifles thinking" (Alvesson & Spicer, 2016, p.193). Organizational learning is a process that requires both an individual and a managerial effort. If people don't have a clear target and a powerful motivational system these efforts will not be done, and there will be no supportive learning environment. It is not only about the capacity to learn, but it is also about the willingness to make all necessary efforts to learn and the set of values integrated into the organizational culture. Sometimes the shared beliefs may become a shared blindness.

# Learning processes

In any organization, we have two types of learning processes: learning how to perform professional activities and learning how to use the power of social groups and of the whole organization to improve its performances. Unlike organizations focused on industrial production, universities are focused on learning processes. The final outcomes of the "production process" consist of thinking models and skills students will be using in their professional life. The turbulent economic environment we face today requests to focus more on developing generic thinking skills than on transferring knowledge, although for many students that requires a mind-shift (Bereiter, 2002; Bratianu & Vatamanescu, 2017).

On the other hand, organizational learning implies knowledge creation, knowledge sharing, knowledge transfer, knowledge retention and a good balance of the organizational knowledge dynamics (Bratianu & Bejinaru, 2016; Bratianu & Orzea, 2010b). Since universities are age-layered organizations an important role in developing learning processes is played by intergenerational learning (Bratianu et al., 2011). As a result of intergenerational learning, universities can increase the knowledge retention when professors retire and take with them a huge expertise. Otherwise, the knowledge loss may put the whole university to risk when the number of retired professors is significant. That was the case of the Romanian universities in 2011 and 2012 when as a result of the new educational legislation have been forced to retire over 1000 professors. Many research programs and doctoral schools suffered an unpredictable knowledge loss.

### Learning leadership

Leadership is the most important nonlinear integrator in any organizations which contributes directly to transform the intellectual capital potential into the operational intellectual capital (Bass & Riggio, 2006; Bratianu, 2011). Learning leadership is a dynamic capability of the university governance which contributes to achieving competitive advantage in the global competition (Donina et al., 2015; Teece, 2009). University leadership is responsible for developing the knowledge strategies for the university future and for transforming efficiently the potential intellectual capital into the operational intellectual capital (Bolisani & Bratianu, 2017; Bratianu & Bejinaru, 2017).

#### Conclusions

Universities are knowledge-intensive organizations whose mission is to create and transfer knowledge toward students and society. In the present turbulent environment, universities face a fierce global competition for human and financial resources, as well as for high technologies to shape the future.

The paradox of any university is that although it focuses on learning processes in developing students' skills and minds, it is not by default a learning organization. In order to become a learning organization, a university needs to dispose of a supportive learning environment, to create organizational learning processes and to have a learning leadership. These are also the challenges for any university to become a world-class university, which means a university prepared for the global competition.

### References

- Alvesson, M., & Spicer, A. (2016). *The stupidity paradox: The power and pitfalls of functional stupidity at work*. London: Profile Books.
- Argote, L. (2013). Organizational learning: Creating, retaining and transferring knowledge. 2<sup>nd</sup> edition. New York: Springer.
- Argyris, C. (1999). On organizational learning. 2<sup>nd</sup> Edition. Oxford: Blackwell Business.
- Bass, B.M., & Riggio, R.E. (2006). *Transformational leadership*. 2<sup>nd</sup> Edition. London: Lawrence Erlbaum Associates, publishers.
- Bejinaru, R. & Prelipcean, G. (2017). Successful strategies to be learnt from world-class universities, *Management & Marketing. Challenges for the Knowledge Society*, 11(1), 350-358.

Bereiter, C. (2002). Education and mind in the knowledge age. New York, NY: Routledge.

Bolisani, E., & Bratianu, C. (2017). Knowledge strategy planning: an integrated approach to manage uncertainty, turbulence, and dynamics. *Journal of Knowledge Management*, 21(2), 233-253.

- Bratianu, C. (2009). The intellectual capital of universities. *Analele Universitatii din* Oradea: Stiinte Economice/Annals of the University of Oradea: Economics, 18(1), 63-70.
- Bratianu, C. (2011). A new perspective of the intellectual capital dynamics in organizations. In Vallejo-Alonso, B., Rodriguez-Castellanos, A. & Arregui-Ayasuy, G. (Eds.). *Identifying, measuring, and valuing knowledge-based intangible assets: new perspectives* (pp.1-21). Hershey: IGI Global.
- Bratianu, C. (2013). Nonlinear integrators of the organizational intellectual capital. In Fathi, M. (ed.). *Integration of the practice-oriented knowledge technology: Trends and perspectives* (pp.3-17). Heidelberg: Springer.
- Bratianu, C. (2014). Intellectual capital of the European universities. In Dima, A.M. (Ed.). *Trends in European Higher Education convergence* (pp.24-43). Hershey: IGI Global.
- Bratianu, C. (2017a). Strategic thinking in turbulent times. In Dima, A.M. (Ed.). Proceedings of the 11<sup>th</sup> International Conference on Business Excellence – Strategy, Complexity and Energy in Changing Times, Bucharest University of Economic Studies, Bucharest, Romania, 30-31 March 2017 (pp.248-254).
- Bratianu, C. (2017b). Sharing economy: Knowledge strategies for crazy times. In Tsui,
  E. & Cheung, B. (Eds.). Proceedings of the 14<sup>th</sup> International Conference on Intellectual Capital, Knowledge Management and Organizational Learning, The
  Hong Kong Polytechnic University, Hong Kong (pp. 29-35), 7-8 December 2017. Reading: Academic Conferences and Publishing International.
- Bratianu, C. (2018). Intellectual capital research and practice: 7 myths and one golden rule. Management & Marketing. Challenges for the Knowledge Society, 13(2), 859-879.
- Bratianu, C., Agapie, A., & Orzea, I. (2011). Knowledge dynamics modelling using Analytic Hierarchy Process (AHP). *Proceedings of the 3<sup>rd</sup> European Conference on Intellectual Capital, University of Nicosia, Cyprus, 18-19 April 2011* (pp.94-102). Reading: Academic Conferences and Publishing International.
- Bratianu, C., Agapie, A., Orzea, I., & Agoston, S. (2011). Intergenerational learning dynamics in universities. *Electronic Journal of Knowledge Management*, 9(1), 10-18.

- Bratianu, C., & Anagnoste, S. (2011). The role of transformational leadership in mergers and acquisition in emergent economies. *Management & Marketing. Challenges for the Knowledge Economy*, 6(2), 319-326.
- Bratianu, C., & Bejinaru, R. (2016). Evaluation of knowledge processes within learning organization. In O.Nicolescu, & L. Lloyd-Reason (Eds.). *Challenges, performances* and tendencies in organisation management (pp.125-136). Singapore: World Scientific.
- Bratianu, C., & Bejinaru, R. (2017). Knowledge strategies for increasing IC of universities. In Lopez, I.T. and Serrasqueiro, R. (eds.), *Proceedings of the 9th European Conference on Intellectual Capital*, Institute Universitario de Lisboa (ISCTE), Portugal, 6-7 April 2017 (pp.34-42), Reading: Academic Conferences and Publishing International.
- Bratianu, C., & Orzea, I. (2010a). Tacit knowledge sharing in organizational knowledge dynamics. Proceedings of the 2<sup>nd</sup> European Conference on Intellectual Capital, ISCTE Lisbon University Institute, Lisbon, Portugal, 29-30 March 2010 (pp.107-114). Reading: Academic Conferences and Publishing International.
- Bratianu, C., & Orzea, I. (2010b). Organizational knowledge creation. *Management & Marketing. Challenges for the Knowledge Society*, 5(3), 41-62.
- Bratianu, C., & Orzea, I. (2012). Intergenerational learning as an entropy driven process. *Management & Marketing. Challenges for the Knowledge Society*, 7(4), 603-613.
- Bratianu, C., & Orzea, I. (2013). Emotional knowledge: the hidden part of the knowledge iceberg. In Janiunaite, B., Pundziene, A. & Petraite, M. (Eds.).
  Proceedings of the 14<sup>th</sup> European Conference on Knowledge Management, Kaunas University of Technology, Lithuania, 5-6 September 2018 (Vol. 1, pp.82-90).
  Reading: Academic Conferences and Publishing International.
- Bratianu, C., & Pinzaru, F. (2015). University governance as a strategic driving force. In Rouco, J.C.D. (Ed.). *Proceedings of the 11<sup>th</sup> European Conference on Management, Leadership and Governance*, Military Academy, Lisbon, Portugal, 12-13
  November 2015 (pp. 28-35). Reading: Academic Conferences and Publishing International.
- Bratianu, C., Platis, M., & Prelipcean, G. (2016). The role of legislation and organizational culture in shaping academic leadership. In Pinzaru, F. & Bratianu, C. (Eds.). *Proceedings of the 12<sup>th</sup> European Conference on Management, Leadership, and Governance*, 10-11 November 2016, National University of Political Studies and Public Administration (SNSPA), Bucharest, Romania (pp. 17-23), 10-11 November 2016. Reading: Academic Conferences and Publishing International.
- Bratianu, C., & Vasilache, S. (2010). A factorial analysis of the managerial linear thinking model. *International Journal of Innovation and Learning*, 8(4), 393-407.
- Bratianu, C., & Vatamenescu, E.M. (2017). Students' perception on developing conceptual generic skills for business: A knowledge approach. *VINE Journal of Information and Knowledge Management Systems*, 47(4), 490-505.
- Christopher, J. (2012). Governance paradigms of public universities: An international comparative study. *Tertiary Education and Management*, 18(4), 335-351.
- Crossan, M.M., Lane, H.W., & White, R.E. (1999). An organizational learning framework: From intuition to institution. *Academy of Management Review*, 24(3), 532-537.
- Curaj, A., Scott, P., Vlasceanu, L., & Wilson, L. (Eds.) (2012). *European higher education at crossroads: Between the Bologna process and national reforms*. Springer: Heidelberg.

- Dima, A.M. (2014). *Trends in European higher education convergence*. Hershey: IGI Global.
- Donina, D., Meoli, M., & Paleari, S. (2015). The new institutional governance of Italian state universities: What role for the new governing bodies? *Tertiary Education and Management*, 21(1), 16-28.
- Duderstadt, J.J. (2000). *A university for the 21st century*. Ann Arbor: University of Michigan Press.
- Garratt, B. (2001). *The learning organization: Developing democracy at work*. London: Harper Collins Business.
- Garvin, D.A. (2000). *Learning in action: A guide to putting the learning organization to work.* Boston: Harvard Business School Press.
- Garvin, D.A., Edmondson, A.C., & Gino, F. (2008). Is yours a learning organization? *Harvard Business Review*, March, 109-116.
- Gharajajedaghi, J. (2006). Systems thinking: Managing chaos and complexity: A platform for designing business architecture. 2<sup>nd</sup> Edition. Amsterdam: Elsevier.
- Ghinea, V.M., & Bratianu, C. (2012). Organizational culture modelling. *Management & Marketing. Challenges for the Knowledge Society*, 7(2), 257-276.
- Gladwell, M. (2005). *Blink: The power of thinking without thinking*. New York, NY: Back Bay Books.
- Gladwell, M. (2008). *Outliers: The story of success*. London: Penguin Books.
- Hadad, S. (2017). Strategies for developing knowledge economy in Romania. *Management & Marketing. Challenges for the Knowledge Economy*, 12(3), 416-430.
- Hill, D. (2008). *Emotionomics. Leveraging emotions for business success*, Revised Edition, London: Kogan Page.
- Kahneman, D. (2011). *Thinking, fast and slow*. New York, NY: Farrar, Straus and Giroux.
- Lefter, V., et al. (2011). Intergenerational knowledge transfer in the academic environment of knowledge-based economy. *Amfiteatru Economic Journal*, 13(30), 392-403.
- Mok, K.H. (2008). Singapore's global education hub ambitious. University governance change and transformational higher education. *International Journal of Educational Management*, 22(6), 527-546.
- Mora, J.G. (2001). Governance and management in the new university. *Tertiary Education and Management*, 7(2), 95-110.
- Nonaka, I., & Takeuchi, H. (1995). *The knowledge-creating company. How Japanese companies create the dynamics of innovation.* Oxford: Oxford University Press, Oxford.
- Örtenblad, A. (2001). On differences between organizational learning and learning organization. *The Learning Organization*, 8(3), 125-133.
- Örtenblad, A. (2011). *Making sense of learning organization: What is it and who needs it?* Kuala Lumpur: Yayasan Ilmuwan.
- Prelipcean, G., & Bejinaru, R. (2016). Universities as learning organizations in the knowledge economy. *Management Dynamics in the Knowledge Economy*, 4(4), 469-492.
- Sanchez, M.P., Elena, S., & Castrillo, R. (2009). Intellectual capital dynamics in universities: a reporting model. *Journal of Intellectual Capital*, 10(2), 307-324.
- Secundo, G., Margherita, A., Elia, G., & Passiante, G. (2010). Intangible assets in higher education and research: mission, performance or both? *Journal of Intellectual Capital*, 11(2), 140-157.

- Senge, P. (1990). *The fifth discipline: The art & practice of the learning organization.* London: Century Business.
- Senge, P. (1999). *The fifth discipline: The art & practice of the learning organization.* London: Random House.
- Shattock, M. (2006). *Managing good governance in higher education*. Berkshire: Open University Press.
- Shattock, M. (2013). University governance, leadership and management in a decade of diversification and uncertainty. *Higher Education Quarterly*, 67(3), 217-233.
- Sherwood, D. (2002). Seeing the forest for the trees: A manager's guide to applying systems thinking. London: Nicholas Brealey.
- Song, J., & Lee, K. (2014). *The Samsung way: Transformational management strategies from the world leader in innovation and design*. New York, NY: McGraw Hill.
- Starbuck, W.H., & Hedberg, B. (2003). How organizations learn from success and failure. In Dierkes, M., Berthoin Antal, A., Child, J., & Nonaka, I. (Eds.). *Handbook of organizational learning & knowledge* (pp.327-350). Oxford: Oxford University Press.
- Teece, D.J. (2009). Dynamic capability & strategic management. Organizing for innovation and growth. Oxford: Oxford University Press.
- Vătămănescu, E.-M., Andrei, A.-G., Leovaridis, C., & Dumitriu, L.-D. (2015). Exploring network-based intellectual capital as a competitive advantage. An insight into European universities from developing economies. In Cegarra Navarro, J.G. (Ed.), *Proceedings of the 7th European Conference on Intellectual Capital ECIC 2015* (pp.350-358). Reading: Academic Conferences and Publishing International Limited.