DOES INTELLECTUAL CAPITAL CONTRIBUTE TO A BETTER MANAGEMENT OF VIRTUAL TEAMS?

Georgiana CRISTEA
National University of Political Studies and Public Administration
30A Expoziției Blvd., 012104 Bucharest, Romania
georgiana.cristea@facultateademanagement.ro

Abstract. *This paper proposes a review of the literature on two very important topics for managerial population nowadays: intellectual capital and virtual teams, with an eye towards applying the theoretical information to organizational performance and efficiency. In a knowledge-based economy, where the information is still the most important source of power, the "intangible" assets of the company (the intellectual capital, with its three forms human capital, relational capital and structural capital) are playing the main role in the creation, development and survival of the company on this very demanding and competitive market. Consequently, employees are seen not only as resources for the company, but as values creators, exchanging their knowledge and the information and using their abilities and skills within various networks. In the current economy, change is a constant for the organizations and combining this reality with the fast pace development of technology, virtual teams have become one of the most common solutions for many companies, especially for multinational ones. In order to find the most effective strategy to use the knowledge about the intellectual capital and its components in virtual teams' management, we review books and articles from different areas like: management, sociology, organizational psychology and law, to discover all the aspects involved in this approach. We discovered that knowledge and understanding of the human and relational capital are playing a vital role for the management of virtual teams, considering the specificity of those teams.*

Keywords: *virtual teams' (VT) management; intellectual capital (IC); relational capital; network-based capital; digitalization.*

Introduction

We assist today to a considerable digitalization of almost everything: even when we are referring to younger categories of employees, aged between 18 and 38 years, we are talking about "digital immigrants" (describing the Generation Y members) and "digital natives" (describing the Generation Z members)(Prensky, M., 2001; Twenge, J.M. & Campbell, S.M., 2008; Twenge, Campbell, Hoffman & Lance, 2010); we also have global digital marketplaces, where products from all over the world are bought and sold every second; we have digital technologies, including all types of electronic equipment and applications that use information in the form of numeric code, so we can posit that overall we have a digital economy. Most of us are making "digital" our way of living: we are online buyers and we are part of the online communities of consumers, we are doing online transactions and payments, so why wouldn't we be remote employees? Or members of virtual teams (VT), using our abilities, competencies, knowledge and information in a digital workplace, instead of a traditional one? This new style of thinking and acting, this type of "knowledge-based economy has turned the attention of many organizations from the functional production models to more flexible, creative

and innovative ones, adapted to meet the expectations of the digital consumer" (Vătămănescu et al., 2018a).

Recent HR studies stated that classical work contracts, with a limited or undetermined period of validity will soon become history and the Harvard Business Review (2018) affirmed in a recent book that: "Virtual collaboration is fast becoming the norm", so it is obvious that the number of digital employees will increase and these people will do a constant exchange of knowledge and information with similar peers, collaborating within online networks or communities (Vătămănescu, Nistoreanu & Mitan, 2017; Vătămănescu et al., 2018b) being part of virtual teams (Lilian, 2014) or teleworkers (Bergum, 2014) or "remote employees" (Purvanova, 2014; Bunce, Wright & Scott, 2017). Therefore, in order to react appropriately to this new certainty, new forms of intellectual capital (IC) will develop and will be on the research agenda of academics and practitioners, affirming their relevance, in this context of the digital workforce management.

Nowadays, organizational performance is increasingly a knowledge-related issue (Vătămănescu et al., 2015, 2016a, c, 2017, 2018a, b) and our research question was related to the contribution of the intellectual capital to the performance of the virtual teams. While the literature about intellectual capital (IC) focuses on intangible resources of a company that contribute to value creation (e.g. Edvinsson & Malone, 1997, Sullivan, 1998, Spender et al., 2013), typically in terms of human, structural and relational capital assets governed by an organization (e.g. Bontis, 2001; Guthrie, 2001); the latter concentrates on the activity of virtual teams, their strengths and weaknesses, the communication within these teams, the challenges of these teams, the management and leadership, and of course the performance of the virtual teams (Avolio, Kahai & Dodge, 2001; Bell & Kozlowski, 2002; Malhotra, Majchrzak & Rosen, 2007).

In order to recognize how the employees can create value for the organizations without working face-to-face or in a traditional work environment, it would be very useful to understand the relationship between these two aspects (IC and VT). At this moment, this is a great volume of research on IC and VT fields separately, but there are only few studies combining these approaches and demonstrating how IC advantages and their management might impact the value creation in virtual teams (e.g. Alavi & Tiwana, 2002; Harvey, Novicevic & Garrison, 2005; Striukova & Rayna, 2008; Suchan & Hayzak, 2001).

The intellectual capital in the organizational framework

In an environment that is more and more competitive, dynamic and knowledge-based, where the artificial intelligence intends to take over part of some standard human activities, it seems that the most valuable resources of the organizations and suitable for considering, are not anymore the ones that appear on the balance sheets, but the "intangible" ones, also known as Intellectual Capital (IC) (MERITUM, 2002) of the organizations (Subramaniam & Youndt, 2005; Teece et al., 1997). Studies have shown that intellectual capital and non-tangible assets are also important for value creation (Moustaghfir & Schiuma, 2013; Bratianu & Vătămănescu, 2017; Bratianu, 2018) and IC is information that could be converted into profit (Sullivan, 1999) and it could be a predictor of a company's greater productivity, efficiency, and overall profitability (Berzkalne & Zelgalve, 2014).

Because of the difficulty of measuring, at the beginning, it was hard to identify the intellectual capital, to define it specifically and completely and there were different opinions on this topic. Notwithstanding it is being demonstrated that knowledge assets could lead to a company's superior performance than tangible resources (Bogner & Bansal, 2007).

Although, there is not a general consensus and a general accepted definition, so the intellectual capital was defined by the academics as: "the sum of all knowledge and knowing capabilities used to form the process of conducting business to gain competitive advantages (Subramaniam & Youndt, 2005; Youndt et al., 2004, Nahapiet & Ghoshal, 1998; Stewart & Ruckdeschel, 1998; Teece & Teece, 2000); the knowledge assets that can be converted into value (Edvinsson & Malone, 1997); the sum of a company's hidden assets not fully captured on the balance sheet (Youndt et al., 2004). Considering from an economic point of view, in 2015, intangibles represented 87% of the market capitalization of listed companies forming part of the S&P 500 stock-market index (in Cañibano, 2017) the trademarks being a large percentage of these assets and in many cases the expenditure on R&D exceeding the net profits of these companies (Cañibano, 2017).

Despite the different definitions of the IC, there is a consensus of the main components of the IC and in most papers, intellectual capital is seen to consist of three elements: human capital, structural capital and relational capital (Dean & Kretschmer, 2007; Sharabati et al., 2010; Herremans et al., 2011; Leitner et al., 2014).

The human capital refers to employees and executives, and includes the sum of employees' education, experience, competence, knowledge, skills, innovativeness, attitude, commitment, wisdom, and creativity (Guthrie, 2001; Boujelbene & Affes, 2013; Wang et al., 2014). It represents the individual knowledge stock of an organization to reach certain targets (Pablos, 2002; Nick & Alexander, 2007; Bontis et al., 2007; Cabello-Medina et al., 2011; Campbell et al., 2012). The human capital is the first dimension of the IC, because a highly skilled workforce can contribute to improve business processes, can make the company more competitive and valuable, and can contribute to the development of the company (Hitt et al., 2001; Vătămănescu et al., 2016a).

Structural capital is embedded in the entire organization, rather than in its employees (Cañibano, 2017) and it is represented by the non-tangible assets of organizational capabilities, organizational charts, organizational culture, routines, procedures, process manuals, strategies, information systems, hardware, software, databases, company images, patents, copyrights and trademarks (Bontis, 1998; Karagiannis et al., 2008; Zangoueinezhad & Moshabaki, 2009; Aramburu & Saenz, 2011). The structural capital refers to the valuable intangible assets that employees cannot take away when getting off work or leaving the organization (Edvinsson & Malone, 1997) and that help company to meet the market requirements (Pirtini, 2004).

Relational capital is the most complex dimension of the IC, because it consists in all the relationships between the internal intellectual resources and the external stakeholders (De Clercq & Sapienza, 2006; Carmeli & Azeroual, 2009; Kong & Farrell, 2010; Bronzetti et al., 2011) and it speaks about the organizations as dynamic and open systems (Vătămănescu et al., 2016a). Nowadays companies have a wide range of stakeholders:

customers, suppliers and partners they interact with (Cañibano, 2017; Vătămănescu et al., 2016c; Andrei et al., 2017). Having a strong relational capital with external actors of the organization, companies can learn from their experiences, can improve their processes and they become more innovative (Cousins et al., 2006; Dewhurst & Navarro, 2004). From an economic point of view, researchers suggested that relational capital may influence transaction costs, enhance cooperation, strengthen supplier relations, and regional production networks (Moran, 2005; Thuy & Quang, 2005; Zhang & Fung, 2006).

There are also other authors who found out by their researches different dimensions of Intellectual Capital, such as "renewal capital" referring to innovative solutions, products and services available for the firm (Kianto, 2008), "trust capital" the trust embedded in its relationships, both internal and external (Mayer et al., 1995), "entrepreneurial capital" the competence and commitment related to entrepreneurial activities in the organization (Erikson, 2002) and "network –based capital" defined as "an intricate configuration and consistent interaction among people, knowledge, information, expertise, competences, know-how within complex and dynamic online social networks" (Vătămanescu et al., 2016a).

The third dimension of the intellectual capital – relational capital - can be observed in the online environment also and there are authors speaking about "network capabilities" (Still, 2014). Online communication is recently (especially for generation Y and Z) the preferred way to communicate, to share information, believes and values. Internet has provided people with this freedom to communicate (Zhao et al., 2013) because in this virtual environment there are no boundaries and the time and space are more flexible concepts (Bharati et al., 2015). Considering these aspects and trends (mobility and flexibility), we can state that virtual teams respond to the needs of the young generations: to have a flexible workplace (Cristea & Mitan, 2017), with a totally adaptable schedule, communicating via technology and using the Internet, being part of greater communities of colleagues. The online preference is also related to the globalization era we are facing (Cuculeski, 2016) – nowadays the employee has the opportunity to work for an organization, even if he is not leaving his/her native country (Cascio & Shurygailo, 2003; Lilian, 2014) and the companies have access to valuable resources from all over the world, with less geographical barriers (Serrat, 2017). In the 21st century when companies face a more sophisticated consumer demand that influences the business orientation and when information influences the purchase behavior (Dawkins, 2004), virtual teams can help companies to adapt better to the local demands and to respond more quickly and appropriate to customer needs.

Virtual teams

Megatrends affect individuals and companies from all over the world and at this moment, mobility and flexibility are two megatrends (Großer & Baumöl, 2017), influencing our daily life including the way we communicate, the way we work or interact with others. Technology is constantly progressing and reinventing itself and sustained the creation and the development of these global trends. To keep up with the technology, companies that want to resist in this competitive market needs to adapt quickly to all those changes and trends, need to reconfigure their organizational strategies and reinvent themselves (Petrou, Demerouti & Schaufeli, 2018).

There are many factors that contributed to this fast development usage of the virtual teams within the companies. First, the technological advancements, we were describing above (e.g., Priem, Li & Carr, 2012): there are many technologies allowing the employees to work, communicate and collaborate with their colleagues and managers, even if they are thousands of kilometers away. There are the "classical" communication means like: phone calls, e-mails, SMS, internal chat, internal communicator, audio-conferences and video conferences (Serrat, 2017), and the newest ones: like using 3 D holograms during meeting (Bunce, Wright & Scott, 2017), or avatars or instant messaging (Bond-Barnard, Fletcher & Steyn, 2016) on different social platforms and so on (Gilson et al., 2015). Second, the preferences regarding the work-life balance of the generations newly entered on the labor field (Generation Y and Generation Z) have changed. Millennials prefer to choose where is their office and when they work, because they do not like the idea of having a standard office or a standard schedule (Cristea & Mitan, 2017), like their parents or grandparents. They do not value the idea of paid extra-hours and they do not try to impress their manager with them (as Generation X) (Hobart & Sendek, 2016), because they prefer a flexible schedule and they give importance to the higher good of their work, not to the exact hours they are working to accomplish it. And third, the cost efficiency policies of the companies that, thanks to these new technologies, can found and contract valuable talents, responding very well to their needs in underdeveloped countries where they can pay less, while obtaining the same results (Cascio & Shurygailo, 2003; Lilian, 2014). This third aspect, corroborated with the first one lead us to the idea that geographical distance is no longer a barrier when it comes to find the best people for the team.

Therefore, it is not surprising that the virtual teams study is still an important topic for the academics and managers and it became a common procedure of HR and managerial strategies (Raisinghani et al., 2010; Gilson et al., 2015), because understanding and using the right tools for virtual teams` management will be the prerogative of a well-prepared manager.

Definition of VT, advantages and disadvantages

Work in virtual teams and management of the workforce located in different places, has occurred in many situations as an alternative and a necessity of the employers who did not find local work force and they needed to find new sources of talent to accomplish company goals (Lilian, 2014). The virtual teams have been studied for almost twenty years (Jarvenpaa & Leidner, 1998; Lipnack & Stamps, 1997; Lipnack & Stamps, 2000; Gilson et al., 2015), in order to provide the managers and companies with answers to questions like: "Is this solution an efficient one? And if it is, what are the risks? What are the limitations of this solution and for how long can we use this type of work force?". However, there is still not a general accepted definition for *Virtual Teams* or *Telework*. Academics and practitioners agree with few general characteristics of them: they are groups of people (they can be employees, collaborators of partners), geographically dispersed form the head quarter, brought together to work on a common project, and who use information technologies (ICT) to communicate (Huws, Korte & Robinson, 1990; Korte & Wynne, 1996; Bergum, 2009). As virtual teams are communicating especially through technology, which enable synchronous and asynchronous communication (Avolio & Kahai, 2001) leaders of these teams should have the ability to transmit the information in a manner that serves reaching their goals (Eissa, Fox, Webster & Kim, 2012) and this involves new managerial abilities such as: the ability to

interact on social networks, a global way of thinking, capacity to adapt to multiculturalism, and the ability to be active and online 24/7 (Trivedi & Desai, 2012).

The reasons why virtual teams are now a topic of high interest for managers and academics, were that some benefits of this working style were highlighted: easy access to talents and resources, from different countries, locations and organizations with no geographical restrictions (Serrat, 2017), where resources can be represented by valuable people, knowledge (Bunce et al., 2017) and information. The virtual teams present also some disadvantages and limitations like: the limited face-to-face communication, contextual differences, cultural differences, time differences, country specific aspects that are difficult to understand, team cohesion, trust, cooperation behavior, work satisfaction, and all these can end up with a low performance of virtual teams. Considering all these limitations, many academics studied the theoretical difference between face-to-face and virtual teams in terms of performance and work efficiency (Ortiz de Guinea, Webster & Staples, 2012; Mesmer-Magnus et al., 2011) and the conclusions were that face-to-face teams would be more performant. Although, practical studies could not support the academic findings (Malhotra, Majchrzak, Carman & Lott, 2001) and because of this lack of consensus, there are still plenty of research opportunities, based on these contradictions.

Conclusions: challenges of virtual teams and opportunities offered by the usage of the intellectual capital

Various studies demonstrated the huge impact of the leader in team's performance for collocated teams (Lilian, 2014; Bergum, 2014) and the researches carried out on virtual teams proved an even more important role of the leader for the success of this type of teams (Zaccaro & Bader, 2003; Leonard, 2011).

First, taking into consideration the needs of the employees from the generation Y or Z, the role of the manager is currently changing: the leader should be a *coach* and a *mentor* for his employees (Honore & Schofield, 2012; Miller, Hodge, Brandt & Schneider, 2013). Second, considering the opportunities and challenges of the virtuality, there are authors who stated that leadership is not only the responsibility of the hierarchical leader, but it should be shared between the team members in a collective way, delegating the power and the accountability to each member of the virtual team (Kirkman, Rosen, Tesluk & Gibson, 2004) giving birth to an important concept for virtual teams: Leader-Member-Exchange (LMX) (Gilson et al., 2015), concept that englobes aspects of the relational capital and human capital of these teams.

In this dynamic work environment, leadership fundamental concepts remain the same for virtual teams: vision, mission, direction, strategy, motivating the employees, inspiring them, creating trust within the team, but we assist to a change of paradigm and a change of the way these concepts are transmitted to the team members and after that implemented by these ones (Trivedi & Desai, 2012).

The organizations of the past had a well-defined hierarchical structure and a formal way of transmitting the information and the power from the leader to subordinates (Jarvempaa & Tanriverdi, 2003). With all the technological progress, the companies needed to adapt to new ways of working and to the demand of globalization and virtuality, consequently new organizational structures, more flat ones and web-like

were adopted (Jarvempaa & Tanriverdi, 2003), to facilitate the access to information, the flows of the processes with fewer boundaries and the exchange of the roles within the teams. Therefore, the manager of VTs should be able to use replacements of the direct leadership strategies, materialized through clear rules and procedures, specific standards and routines, respected by all the team members (leader included), in order to control the behavior of the members, to limit the negative impact of the lack of face-to-face interaction and to prevent misunderstandings (Hoch & Kozlowski, 2014), a great expression of the structural capital embedded in these teams.

Geographical distance is a reality for the virtual teams, and there were academics studying this concept from various perspectives: from an organizational perspective, Antonakis and Atwater (2002) define "leader distance" as consisting of three variables: geographical distance, perceived social distance and perceived interaction frequency, from a human geography perspective Boschma (2005) shows that the distance can be classified into five categories: geographical distance, cognitive distance, social distance, organizational distance and institutional distance. Studies conducted after 2005 (Bergum, 2014; Hoch & Kozlowski, 2014; Suh & Shin, 2010) tried to identify what type or types of distance have the biggest impact on employees in terms of their performance, their communication with the direct manager, their satisfaction with the company, the trust they invest in the company, and other organizational behavior. To face the limitations determined by the distance, members of these teams are part of working communities or networks, where they are using ICT to communicate, to interact with other team members, to share their knowledge, their abilities, their expertise and competencies, in a dynamic environment, manifestation of the network-based capital of these teams (Vătămănescu et al., 2016 a, c).

Knowledge of and familiarity with the new forms of intellectual capital can provide the managers of virtual teams with answers to questions like: "What is the best way to share the information within the team?" or "How can I transmit the objectives to the members, in order to empower them to work as a team to obtain the best results?" or "How can I be an inspiring leader for the team?", aspects that are for sure a constant preoccupation when managing virtual teams.

Future research based upon this theoretical framework would present the results of a survey-based research conducted in Romania, with virtual and collocated employees from different companies as respondents, to evaluate the opinion of the respondents regarding the collaboration and communication with their direct manager.

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References

Andrei, A.G., Gazzola, P., Zbuchea, A., & Alexandru, V.A. (2017). Modeling socially responsible consumption and the need for uniqueness: A PLS-SEM approach. *Kybernetes*, 46(8), 1325-1340

Alavi, M., & Tiwana, A. (2002). Knowledge integration in virtual teams: The potential role of KMS. *Journal of the American Society for Information Science and Technology*, 53(12), 1029-1037.

Antonakis, J., & Atwater, L. (2002). Leader distance: A review and a proposed theory. *The Leadership Quarterly*, 13(6), 673-704.

Bergum, S. (2014). Management of teleworkers: Managerial communication at a distance. Retrieved from: https://www.utupub.fi/bitstream/handle/10024/98537/Ae10_2009Bergum.pdf?sequence=2&isAllowed=y

Berzkalne, I., & Zelgalve, E. (2014). Intellectual capital and company value. *Procedia-Social and Behavioral Sciences*, 110, 887-896.

Bond-Barnard, T., Fletcher, L., & Steyn, H. (2016). Exploring the influence of instant messaging and video conferencing on the quality of project communication. *Acta Structilia*, 23(1), 36-69.

Boschma, R. (2005). Proximity and innovation: a critical assessment. *Regional studies*, 39(1), 61-74.

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.

Brătianu, C., & Vătămănescu, E.M. (2017). Students' perception on developing conceptual generic skills for business: A knowledge-based approach. *VINE Journal of Information and Knowledge Management Systems*, 47(4), 490-505.

Bunce, M., Wright, K., & Scott, M. (2017). 'Our newsroom in the cloud': Slack, virtual newsrooms and journalistic practice. *new media & society*, 20(9), 3381-3399.

Cañibano, L. (2017). Accounting and intangibles. *Revista de Contabilidad – Spanish Accounting Review*, 21(1), 1-6.

Cascio, W. F., & Shurygailo, S. (2003). E-Leadership and Virtual Teams. *Organizational Dynamics*, 31, 362–367.

Cristea, G., & Mitan, A. (2017). Managing Generation Y - a Theoretical Perspective. In Brătianu, C., Zbuchea, A., Pînzaru, F., Vătămănescu, E.-M., & Mitan, A. (Eds.), *Proceedings of the 5th International Conference STRATEGICA. Shift! Major Challenges of Today's Economy 5(1),* 813-821. Faculty of Management, SNSPA, Bucharest, Romania.

Cuculeski, N., Petrovska, I., & Cuculeski, V. (2016). Sustainable marketing and consumers' preferences in tourism. *European Journal of Tourism, Hospitality and Recreation*, 7(2), 84-90.

Dean, A., & Kretschmer, M. (2007). Can Ideas Be Capital? Factors of Production in the Postindustrial Economy: A Review and Critique. *Academy of Management Review*, 32(2), 573-594.

Eissa, G., Fox, C., Webster, B. D., & Kim J. (2012). A Framework for Leader Effectiveness in Virtual Teams. *Journal of Leadership, Accountability and Ethics*, 9, 11–22.

Forman, C., Ghose, A., & Wiesenfeld, B. (2008). Examining the relationship between reviews and sales: The role of reviewer identity disclosure in electronic markets. *Information Systems Research*, 19(3), 291-313.

Gilson, L.L., Maynard, M.T., Jones Young, N.C., Vartiainen, M., & Hakonen, M. (2015). Virtual teams research: 10 years, 10 themes, and 10 opportunities. *Journal of Management*, 41(5), 1313-1337.

Großer, B., & Baumöl, U. (2017). Virtual teamwork in the context of technological and cultural transformation. *IJISPM-International Journal of Information Systems and Project Management*, 5(4), 21-35.

Gupta, M., & Bhasin, J. (2014). The Relationship between Intellectual Capital and Brand Equity. *Management and Labour Studies*, 39(3), 329-339.

Harvey, M., Novicevic, M. M., & Garrison, G. (2005). Global virtual teams: A human resource capital architecture. *International Journal of Human Resource Management*, 16(9), 1583-1599.

Herremans, I.M., Isaac, R.G., Kline, T.J. and Nazari, J.A. (2011). Intellectual Capital and Uncertainty of Knowledge: Control by Design of the Management System. *Journal of Business Ethics*, 98(4), 627-640.

Hobart, J.W., & Sendek, H. (2016). Generaţia Y: Generaţia mileniului 3 şi evoluţia leadershipului [Gen Y Now – Millennials and the Evolution of Leadership- second edition]. Bucharest: BMI.

Hoch, J. E., & Kozlowski, S. W. (2014). Leading virtual teams: Hierarchical leadership, structural supports, and shared team leadership. *Journal of Applied Psychology*, 99(3), 390-403.

Huws, U., Korte, W.B., & Robinson, S. (1990). Telework: Towards the elusive office (No. Z24-C35 MIN).

Jarvenpaa, S.L., & Leidner, D.E. (1998). Communication and trust in global virtual teams. *Journal of Computer-Mediated Communication*, 3(4), 346.

Jarvempaa, S.L, & Tanriverdi, H. (2003). Leading virtual Knowledge Networks. *Organizational Dynamics*, 31, 403–412.

Kianto, A., Ritala, P., Spender, J.C., & Vanhala, M. (2014). The interaction of intellectual capital assets and knowledge management practices in organizational value creation. *Journal of Intellectual Capital*, 15(3), 362-375.

Kirkman, B.L., Rosen, B., Tesluk, P.E., & Gibson, C.B. (2004). The impact of team empowerment on virtual team performance: The moderating role of face-to-face interaction. *Academy of Management Journal*, 47(2), 175-192.

Leitner, K.H., et al. (2014). A Strategic Approach for Intellectual Capital Management in European Universities: Guidelines for Implementation. Bucharest: UEFISCDI.

Leonard, B. (2011). Managing Virtual Teams. *HR Magazine*, 56, 39–42.

Lilian, S. C. (2014). Virtual teams: Opportunities and challenges for e-leaders. *Procedia-Social and Behavioral Sciences*, 110, 1251-1261.

Lipnack, J.S., & Stamps, J. (1997). Virtual Teams – Reaching across Space, Time, and Organizations with Technology. New York, NY: Wiley.

Lipnack, J., & Stamps, .J (2000). Virtual teams: people working across boundaries with technology. New York, NY: Wiley.

Malhotra, A., Majchrzak, A., & Rosen, B. (2007). Leading virtual teams. *Academy of Management Perspectives*, 21(1), 60-70.

MERITUM Report (2002). Guidelines for Managing and Reporting on Intangibles, Fundaciòn Aritel Mòvil. Madrid: MERITUM,.

Mesmer-Magnus, J.R., et al. (2011). A meta-analytic investigation of virtuality and information sharing in teams. *Organizational Behavior and Human Decision Processes*, 115(2), 214-225.

Methot, J.R., Melwani, S., & Rothman, N.B. (2017). The space between us: A social-functional emotions view of ambivalent and indifferent workplace relationships. *Journal of Management*, 43(6), 1789-1819.

Ortiz de Guinea, A.O., Webster, J., & Staples, D.S. (2012). A meta-analysis of the consequences of virtualness on team functioning. *Information & Management*, 49, 301–308.

Pablos, P.O. (2002). Evidence of Intellectual Capital Measurement from Asia, Europe and Middle East, *Journal of Intellectual Capital*, 3(2), 287-302.

Petrou, P., Demerouti, E., & Schaufeli, W.B. (2018). Crafting the change: The role of employee job crafting behaviors for successful organizational change. *Journal of Management,* 44(5), 1766-1792.
Pirtini, S. (2004). Intellectual Capital from in terms of Marketing Management. Istanbul: Türkmen Bookstore.
Prensky, M. (2001). Digital natives, digital immigrants part 1. *On the horizon*, *9*(5), 1-6
Priem, R.L., Li, S., & Carr, J.C. (2012). Insights and new directions from demand-side approaches to technology innovation, entrepreneurship, and strategic management research. *Journal of Management*, 38(1), 346-374.
Purvanova, R.K. (2014). Face-to-face versus virtual teams: What have we really learned?. *Psychologist-Manager Journal*, 17(1), 2.
Purvanova, R.K., & Bono, J.E. (2009). Transformational leadership in context: Face-to-face and virtual teams. *Leadership Quarterly*, 20, 343–357.
Raisinghani, M., et al. (2010). Virtual Project Management of Globally Outsourced IT Projects. *International Journal of Management and Information Systems*, 14, 1–7.
Serrat, O. (2017). Managing Virtual Teams. In *Knowledge Solutions*. Singapore: Springer.
Sharabati, A.A.A., Jawad, S.N., & Bontis, N. (2010). Intellectual Capital and Business Performance in the Pharmaceutical Sector of Jordan. *Management Decision,* 48(1-2), 105-131.
Still, K., Huhtamäki, J., & Russell, M. (2014). New insights for relational capital. In ICICKM2014-Proceedings of the 11th International Conference on Intellectual Capital, Knowledge Management and Organisational Learning: ICICKM2014 (p. 384). Academic Conferences Limited.
Subramaniam, M., & Youndt, M.A. (2005). The influence of intellectual capital on the types of innovative capabilities. *Academy of Management Journal*, 48(3), 450-463.
Suchan, J., & Hayzak, G. (2001). The communication characteristics of virtual teams: A case study. *IEEE transactions on Professional Communication*, 44(3), 174-186.
Sullivan, P.H. (1999). Profiting from Intellectual Capital. *Journal of Knowledge Management*, 3(2), 132-143.
Striukova, L., & Rayna, T. (2008). The role of social capital in virtual teams and organisations: corporate value creation. *International Journal of Networking and Virtual Organisations*, 5(1), 103-119.
Suchan, J., & Hayzak, G. (2001). The communication characteristics of virtual teams: A case study. *IEEE transactions on Professional Communication*, 44(3), 174-186.
Suh, A., & Shin, K. S. (2010). Exploring the effects of online social ties on knowledge sharing: A comparative analysis of collocated vs dispersed teams. *Journal of Information Science*, 36, 443-463.
Teece, D.J., Pisano, G., & Shuen, A. (1997). Dynamic capabilities and strategic management. *Strategic Management Journal,* 18(7), 509-533.
Trivedi, A., & Desai, J. (2012). A Review of Literature on E-Leadership. Shri Chimanbhai Patel Institutes. Ahmedabad. Working Paper No. CPI/MBA/2012/0004.
Twenge, J.M., Campbell, S.M., Hoffman, B.J., & Lance, C.E. (2010). Generational Differences in Work Values: Leisure and Extrinsic Values Increasing, Social and Intrinsic Values Decreasing. *Journal of Management*, 36(5), 1117-1142.
Twenge, J.M., & Campbell, S.M. (2008). Generational differences in psychological traits and their impact on the workplace. *Journal of Managerial Psychology*, 23(8), 862-877.
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.

Vătămănescu, E.M., Andrei, A.G., Dumitriu, D.L., & Leovaridis, C. (2016a). Harnessing network-based intellectual capital in online academic networks. From the organizational policies and practices towards competitiveness. *Journal of Knowledge Management*, 20(3), 594-619.

Vătămănescu E.-M., Zbuchea, A., Pînzaru, F., & Andrei, A.G. (2016b). The Impact of Relational Capital on SME Internationalization. Leveraging Online Versus Offline Business Networking. In Moffett, S., & Galbraith, B. (Eds.), *Proceedings of the 17th European Conference on Knowledge Management* (pp.926-935). Reading: Academic Conferences and Publishing International Limited.

Vătămănescu, E.-M., Pînzaru, F., Andrei, A.G., & Zbuchea, A. (2016c). Investigating SMEs sustainability with partial least squares structural equation modeling. *Transformations in Business & Economics (TIBE)*, 15(3), 259-273.

Vătămănescu, E.-M., Andrei, A.G., Nicolescu, L., Pînzaru, F., & Zbuchea, A. (2017). The Influence of Competitiveness on SMEs Internationalization Effectiveness. Online versus Offline Business Networking. *Information Systems Management*, 34(3), 205-219.

Vătămănescu, E.M., Nistoreanu, B.G., & Mitan, A. (2017). Competition and consumer behavior in the context of the digital economy. *Amfiteatru Economic*, 19(45), 354.

Vătămănescu, E.-M., et al. (2018a). A Demand-Side Perspective of Bioeconomy: The Influence of Online Intellectual Capital on Consumption. *Amfiteatru Economic*, 20(49), 536-552.

Vătămănescu, E.-M., Andrei, A.G., & Pînzaru, F. (2018b). Investigating the online social network development through the Five Cs Model of Similarity: The Facebook case. *Information Technology & People,* 31(1), 84-110.

Vătămănescu, E.-M., Andrei, A.G., Gazzola, P., & Dominici, G. (2018c). Online Academic Networks as Knowledge Brokers: The Mediating Role of Organizational Support. *Systems*, 6, 11.

Wang, Z., Wang, N., & Liang, H. (2014). Knowledge sharing, intellectual capital and firm performance. *Management Decision*, 52(2), 230-258.

Zaccaro, S., & Bader, P. (2003). E-Leadership and the Challenges of Leading E-Teams: Minimizing the bad and Maximizing the Good. *Organizational Dynamics*, 31, 377–387.

Zhao, Y., Yang, S., Narayan, V., & Zhao, Y. (2013). Modeling consumer learning from online product reviews. *Marketing Science*, 32(1), 153-169.