Comparative Study of Employees' Key Competencies in Selected Health Care and Non-Health Care Organizations

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Abstract. *The key competences of the employees are currently discussed and the open labor market. Competencies can be divided into three basic categories: knowledge competencies, application competencies and social competencies. Each work environment brings its specifics and the aim of the article is to find similarities and differences in the key competencies of employees of healthcare organizations and non-healthcare organizations. In order to achieve the objective of the article, a questionnaire survey was used, involving 791 respondents from healthcare organizations and 647 non-healthcare organizations. In total 1438 questionnaires were evaluated. The research was conducted from May 2017 to September 2018. The first phase of the research was conducted through semi-standardized interviews with 73 representatives of healthcare organizations and 69 representatives of non-healthcare organizations. Qualitative research was attended by representatives of the personnel department, respectively human resource management department. The second stage of the research was followed by quantitative research. Quantitative research was conducted from January 2018 to September 2018. Key competencies were selected on the basis of importance, and the author of the article deals with those that respondents have identified as most important for their work. Here we can find the first differences in the identification of key competencies in healthcare organizations and non-healthcare organizations. Respondents of healthcare organizations have identified as the most important the ability to communicate, the ability to learn, teamwork, reliability, dedication to work, empathy, emotional maturity and work under stress, while non-healthcare organizations respond as key communication skills, IT skills, creativity, team work, reliability, emotional maturity, and work under stress. Three research hypotheses have been identified. The research hypotheses were verified using the Two-sample t-Test statistic for equal means.*

Keywords: competence, healthcare organizations, non-healthcare organizations, knowledge competencies, application competencies, social competencies, Czech Republic

Introduction

Management of competencies is currently a rapidly evolving area of both theoretical and practical knowledge in individual organizations. The article focuses on the comparison of competencies in health and non-health organizations. The Competency concept has gained more attention in improving human resource management methods, allowing for more flexible resource management. For many companies, both in healthcare and non-health organizations, competence management becomes a strategic issue at all levels of society, both strategically and tactically, and equally operational. At the strategic level, key competencies are considered competences that distinguish the company from its competitors and provide it with a dominant position and competitive ability that is hard to quantify but is important for the continuous improvement, innovation and progress of the organization. In a dynamic, competitive environment, however, companies need to develop

rapidly and set their leadership on key factors, such as human resources (Harzallah and Vernadat, 2002, Kaplan and Coll., 1998).

In general, we can distinguish two basic types of competencies. The first group is the competencies needed to achieve a mission or activity, that is, the competencies required by the system; and the other, no less important group, with existing competencies that enable them to perform tasks or activities, that is competencies obtained by one or more individuals (Michel, 1997).

Management of competencies is an important innovation in the practice of organizations, both health care organizations and non-health care organizations, as it is a way to get organizations to pay attention to employment information and staffing in human resource management. In fact, the key difference between work analysis and management of competencies may be that managers pay more attention to management of competencies. In this sense, management of competencies is a way to get the necessary analysis of jobs in the mainstream of decision-making on human resources management. Intellectual capital (IC), understood as a collection of intangible firm resources, has been considered to have the potential to be transformed into competitive advantage (Drucker, 1999). As a result, intellectual capital asset management can be considered an important aspect of strategy in organizations.

Literature review

The main aim of each organization in today's turbulent competitive environment is to have satisfied and motivated employees who strive to develop in all areas of their working career. One of the models that this allows is the management of competencies. This approach is aimed at developing employees in different areas of interest, both hard skills and soft skills. It is unclear to say which area is more important for a given segment of workers - workers of healthcare organizations and non-health organizations. Competencies can be defined as measurable capabilities required in performing tasks in the context of some concrete work situations (Dzinkowski, 2000).

In general, the division of competences is different. For the purpose of the research, we also distribute competencies according to occurrence, namely the acquired and required. Competency has resources, which can be structured according to categories and sub-categories. Competency is always carried out in a context. Competency is connected to the achievement of one or more missions or tasks. (Harzallah and Vernadat, 2002).

Competency models refer to collections of knowledge, skills, abilities, and other characteristics that are needed for effective performance in the jobs in question (Rodriguez, Patel, Bright, Gregory, & Gowing, 2002; Schippmann et al., 2000, Campion and coll, 2011). Defining the term competences raises many problems. It is often identified them with other concepts such as skills, abilities or qualifications (Tobór-Osadnik, 2018). In this case, competencies must be perceived as an umbrella term for subordinate concepts, which are already mentioned attitudes and values, qualifications and skills and knowledge.

The goal of each organization's management should therefore be to develop employee careers by using the competency models to guide the choice of job assignments and make other career choices (Berke, 2005; Groves, 2007).

If we approach the competencies of workers, then they can be assessed in a behaviourist style as the performance exhibited by an individual to carry out a particular

work situation (García-Barriocanal and coll., 2012). Individual competencies in turn have been defined in terms of knowledge, skills and attitudes (Bilikova and Taraba, 2014).

Pfeffer (1998) argued that companies that understand the relationship between people and organizational performance are those that usually earn in the long run. Improving the performance of the project, program, portfolios and organization is therefore related to improving employee performance.

An integral and indispensable part of management of competencies is the development of individual key skills, which can be improved by regular training and practice. These basic, not only managerial skills, include the ability to communicate and teamwork. Communication between team members (Tiferes and Bisantz, 2018) is essential to the team's work (Beck and Keyton, 2013, Keyton et al., 2010). Therefore, it is not surprising that the level of team communication is commonly used to study the functioning of teams (Cooke et al., 2007, Wildman et al., 2012). Team processes such as communication are manifested differently by team type (Salas et al., 2005). In addition, Driskell and Salas (2006) indicate a number of critical factors or circumstances that affect team processes, including communication processes.

If the project team members do not have the required level of developed competence (Shahhosseini and Sebt, 2011), the performance of the team may be jeopardized. Competence, as mentioned above, is the knowledge, skills and behavior that a person needs to fulfill their role, not only in the team (Liu and coll., 2005). Assessing competencies, skills and abilities, and knowledge of personality traits and key individual behaviors increase the chances of choosing a team that has the potential to succeed (Morris and Pinto, 2007). Collaboration with employees is also needed because one person performs a task interdependent, also requires information, resources, expertise and coordination with other staff (Stark and Coll, 2004). Collaboration and cooperation is the ability of employees to solve problems and work with colleagues when the role is interdependent (Bar-On, 1995). In addition, working collaboration creates a friendly relationship with partners, allowing them to easily meet their goals (Hsu, 2017).

In recent years, organizations have invested heavily in emerging technologies, including Enterprise Social Media (ESM) and Information Technology (IT). Enterprise social media can be defined as a group of collaborative digital technologies (Leonardi and Meyer, 2015) that facilitates knowledge management and management of competencies within organizations (Kwahk and Park, 2016). The use of Enterprise social media in the workplace thus makes it possible to streamline communication at the workplace and not only promotes the sharing of knowledge and information. This process is innovative and has not been possible in recent years. Businesses use Enterprise social media tools in particular for work-related, information-sharing and social communication (Ortbach and Recker, 2014), which has a positive impact on the trust in the organization, and are important for both employees and organizations themselves (Huang and coll, 2015, Kuegler and coll, 2015). In the same way, the motivation and dissemination of information on specific activities and procedures to use these models efficiently (Rietzschel, 2014) is motivated to develop the creativity and performance of employees (Ruscio and Amabile, 1999). Many organizations are therefore starting to focus on developing strategies that focus on developing the competence skills of their employees. The main objective is to facilitate the efficient collection and use of information that is inevitable for the quality performance of their work (Pitafi and coll, 2018).

At the moment, the competitive environment is very turbulent and therefore it cannot be clearly stated that what is true in one organization is true of the other, even if the indicators can be very similar. The main reason is human capital. The theories of individual differences have a long history of explaining human behavior and the different ways in which individuals respond to similar events and circumstances. Organizations are very interested in judging and comparing individuals with a number of factors as a means of informing about selection and promotional decisions (Cartwright and Pappas, 2007). According to the American Staff Management Society, nearly 60% of large organizations and 40% of smaller companies employing fewer than 100 employees regularly use Personality Testing for Selection and Other Occupational Purposes (Furnham 1992). The role of individual differences has also been highlighted in the study of the latest and emerging workplace problems, such as work-related stress and organizational change. Research (Barling et al., 2005; Cartwright and Cooper 2004) has shown that differences in gender, personality, behavior and ways of managing individual situations affect the way individuals assess and resist stress. Individual differences have also been shown to relate to the extent to which individuals respond to organizational changes and evaluate them and then respond to their specific behaviors. Perhaps due to the growing recognition that organizational changes and many other work-related experiences are emotion-inducing events (Mossholder et al., 2000), the importance of interest in the role of emotions in the workplace has grown. Particular attention was paid to the emotional demands for jobs in various areas of organizations (Pugh 2001) and they are evaluated as highly stressful (Johnson et al., 2005). As a result, emotional intelligence is considered to be a significant source of individual differences, as it is more important (Goleman 1998) or at least as relevant as traditional cognitive intelligence (Mayer et al., 1990) in determining workplace performance and organizational effectiveness. Emotional intelligence and, consequently, emotional maturity can have implications for the selection and development of employees, especially those involved in stressful jobs such as nursing (Cadman and Brewer 2001).

Methodology

The main aim of the article is to analyze and statistically evaluate the key competencies of healthcare workers and their comparison with workers in non-health organizations. Based on qualitative research, key competencies have been identified and subsequently analyzed using quantitative research. Among the core competencies of healthcare workers, according to research results, are communication skills, learning ability, teamwork, reliability, access to work, empathy, emotional maturity and work under stress. Differently, they perceive the key competencies of workers of non-health organizations, namely communication skills, IT skills, creativity, teamwork, reliability, emotional maturity, and work under stress.

In order to meet the objectives of the present article, qualitative and quantitative research was carried out. The first stage of the research was qualitative research, which took place in the form of semi-structured interviews with 73 representatives of health organizations and 69 representatives of non-health organizations. The interviews were held with representatives of the Personnel Department. Based on the results of qualitative research, a questionnaire was compiled, distributed in selected medical and non-health organizations, in paper form. Questionnaire pretesting was conducted on a sample of 39 respondents in January 2018. Quantitative research began in January 2018 and ended in

September 2018. 31 questionnaires had to be excluded from the questionnaire. 1026 women, 412 men, were interviewed.

The total number of respondents was 1438. The respondents who participated in the research in the healthcare organizations were 791, the respondents from the non-health organizations were 647.

On the basis of the theoretical bases, three research hypotheses were formulated:

H1₀: According to respondents participating in the sample, the average perception of key competencies for employees of health care organizations is the same for men and women.

H1_A: According to respondents participating in the sample, the average perception of key competencies for employees of health care organizations is not the same for men and women.

H2₀: According to respondents participating in the sample, the average perception of key competencies for employees of non-health care organizations is the same for men and women.

H2_A: According to respondents participating in the sample, the average perception of key competencies for employees of non-health care organizations is not the same for men and women.

H3₀: According to respondents participating in the sample, the average perception of key competencies is the same for employees of health care organizations and employees of non-health care organizations.

H3_A: According to respondents participating in the sample, the average perception of key competencies is different for employees of health care organizations and employees of non-health care organizations.

The results of the questionnaires were used to test hypotheses. The research hypotheses were verified using the Two-sample t-Test statistic for equal means.

The evaluation was carried out using the statistical program Statistical Society for Social Sciences (SPSS). SPSS is a statistical software used to address a variety of business and research issues. Provides a variety of techniques, including ad-hoc analysis, hypothesis testing and reporting - facilitates data management, analytical selection and execution, and sharing of results. Part of the program is data processing using PivotTables.

Results and discussions

The main objective of this article is to identify and determine different perceptions of the key competencies of employees of health care organizations and workers of non-health care organizations, as well as to identify and detect possible differences in the perception of given competencies from the gender perspective of the respondents. The key competencies within health care organizations, have been identified the ability to communicate, the ability to learn, teamwork, reliability, dedication to work, empathy, emotional maturity and work under stress. Within non-health organizations, they have been identified and subsequently researched as key competencies which are communication skills, IT skills, creativity, teamwork, reliability, emotional maturity and work under stress.

The aim is to find out which factors are dependent and which, on the contrary, are not dependent on the above variables.

We can already see the difference in the perception of individual competences.

As mentioned above, the determination of differences in perception of men and women was made by the Two-sample t-Test for equal means, see Table 1.

Table 1. Two-Sample t-Test for equal means – Hypothesis H1

	H1: According to respondents participating in the sample, the average perception of key competencies for employees of health care organizations is the same for men and women.						
	t	df	p-value	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
						Lower	Upper
Communication	-3,949	789	,000	-,382	,097	-,573	-,192
Ability to learn	-,787	789	,431	-,072	,091	-,251	,107
Teamwork	-1,064	789	,287	-,099	,093	-,280	,083
Reliability	-1,532	789	,126	-,132	,086	-,301	,037
Dedication to work	-3,419	789	,001	-,313	,092	-,493	-,133
Empathy	-,192	789	,848	-,016	,085	-,183	,151
Emotional maturity	-1,399	789	,162	-,120	,086	-,289	,049
Work under stress	-1,192	789	,234	-,109	,091	-,288	,071

Source: Author's own research.

If the p-value is less than 0.05 - it means that I reject the hypothesis, so there is no difference in the perception of the individual factors in the variables examined, in other words, the difference in perceptions between men and women in a given factor, in the field of communication and dedication to work.

On the contrary, we can say that factors ability to learn, teamwork, reliability, empathy, emotional maturity and work under stress by gender as key competences are perceived equally, so there is no difference in the perception of individual factors.

The second hypothesis also deals with the study of individual factors, but this time in non-health organizations. This hypothesis again gives us a perspective of gender - ie the perception of men and women of the individual key competences needed to perform the work. The results are shown in Table 2:

Table 2. Two-Sample t-Test for equal means – Hypothesis H2

	H2: According to respondents participating in the sample, the average perception of key competencies for employees of non-health care organizations is the same for men and women.						
	t	df	p-value	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
						Lower	Upper
Communication	,841	645	,401	,085	,101	-,114	,284
Team working	-,055	645	,956	-,006	,104	-,209	,198
Reliability	1,134	645	,257	,109	,096	-,080	,299
Emotional maturity	-1,667	645	,096	-,166	,100	-,362	,030
Work under stress	,221	645	,825	,021	,097	-,168	,211
IT skills	-3,280	645	,001	-,323	,098	-,516	-,130
Creativity	,100	645	,920	,010	,100	-,186	,206

Source: Author's own research.

The two-Sample t-Test for equal means showed the following results. The p-value are higher than the significance level – 0,05 in almost all sectors – communication skills, team working, reliability, emotional maturity, work under stress and creativity. The p-value is not higher than the significance level – 0,05 – only in one factor – IT skills.

The results confirm differences in perceptions of IT skills between men and women. The result is expected, because in terms of IT skills and perception of importance, men are more receptive.

The third hypothesis deals with study of statistical significance between the average value of key competencies and the type of organization – health care organizations and non-health care organizations. The statistical evaluation of the mean values using the t-test is shown in the following table – Table 3.

Table 3. Two-Sample t-Test for equal means – Hypothesis H3

	H3: According to respondents participating in the sample, the average perception of key competencies is the same for employees of health care organizations and employees of non-health care organizations.						
	t	df	p-value	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
						Lower	Upper
Communication	-1,299	1436	,194	-,083	,064	-,209	,042
Team working	-2,141	1436	,032	-,134	,063	-,257	-,011
Reliability	2,278	1436	,023	,133	,058	,018	,248
Emotional maturity	,245	1436	,807	,014	,059	-,102	,131
Work under stress	-1,323	1436	,186	-,080	,060	-,198	,039

Source: Author's own research.

The H3 hypothesis, aimed at finding similarities in the different factors - competencies, where the employees of health care organizations and non-health care organizations were compared, produced the following results:

- The difference in perceptions within individual organizations is in team working and reliability,
- Matching perceptions across organizations is about communication, emotional maturity and coping with stressful situations – working under stress.

All hypotheses were evaluated using the SPSS statistical program in the form of a Two-sample t-Test statistic for equal means.

In relation to team working, a different division of competences should be distinguished. In addition to substantive competences necessary for the implementation of tasks, teamwork competences are needed. According to M. Armstrong (2015), in the most important competences according to employers are (according to the degree of occurrence) teamwork orientation, communication, human resources management. In order to better adapt enterprises to teamwork using the competences of human resources, a tool in the form of a competency profile of both the employee and the team can be used.

Conclusion

This article deals with the study of the dependencies between the selected competences and their comparison in the perception in the health care organizations and non-health care organizations, as well as the selected aspects within the individual types of organizations as well as the perceptions of men and women. The main objective of the article was to identify these competences based on statistical analysis and to find interdependence in perception. To achieve the goal, qualitative and quantitative research was carried out between May 2017 and September 2018. The main objective of qualitative research was to identify the key competencies of employees of both health care organizations and non-health care organizations. This was followed by quantitative research that focused on the quantification of given competencies by identifying the importance on the scale 1 - 5, where 1 - most important for work and 5 was least important for work. The results showed differences in the perception of certain competencies in health and non-health organizations, as well as the perceptions of men and women.

The main limitation of the survey was the sample of respondents. For the future, the author is considering expanding the sample outside of the Czech Republic. Further limitations were within the range of competencies analyzed. Other competences that the author will explore include analytical thinking, initiative, responsibility, assertiveness, and others. The author will also explore the relationship between the characteristics, skills and knowledge required for the work of workers in health care organizations and non-health organizations.

References

- Armstrong, M. & Taylor, S. (2015). Rizeni lidských zdrojů. Expert.
- Barling, J. & Kelloway, E.K. & Frone, M.R. (2005). Handbook of Work Stress. *Thousand Oaks*: Sage.
- Bar-On, A. (1995). They have their job, we have ours: reassessing the feasibility of police-social work cooperation. *Policing and Society: An International Journal of Research and Policy*, 5(1), 37-51.
- Beck, S.J. & Keyton, J. (2013). Team cognition, communication, and message interdependence. E. Salas, S.M. Fiore, M.P. Letsky (Eds.), *Theories of Team Cognition: Cross-Disciplinary Perspectives*, 471-494.
- Berke D. (2005). Requirements for implementing a succession management system. *Mt. Eliza Business Review*, 7, 44-49.
- Bilíková, J., & Taraba, P. (2014). The holistic level of competence in the selection process for the position of managers in SMEs in the Czech Republic in Proceedings of the 24th International Business Information Management Association Conference - Crafting Global Competitive Economies: 2020 Vision Strategic Planning and Smart Implementation, Milan, Italy, November 2014, 401-408.
- Cadman, C. & Brewer, J. (2001). Emotional intelligence: a vital pre-requisite for recruitment in nursing. *Journal of Nursing Management*, 9, 321-324.
- Campion, M. A., & Fink, A.A., & Ruggeberg, B.J., & Carr, L. & Phillips, G.M., & Odman, R.B. (2011). Doing Competencies Well: Best Practices in Competency Modeling. *Personell Psychology*, 64(1), 225-262.

- Cartwright, S. & Cooper, C.L. (2004). Stress reduction – the role of individually targeted interventions. In Barling, J., Kelloway, K. and Frone, M. (eds), *Handbook of Work Stress*. London: John Wiley.
- Cartwright, S. & Pappas, C. (2007). Emotional intelligence, its measurement and implications for the workplace. *International Journal of Management Reviews*, 10(2), 149-171.
- Cooke, N.J. & Gorman, J.C. & Duran, J.L. & Taylor, A.R. (2007). Team cognition in experienced command-and-control teams. *Journal of Experimental Psychology: Applied*, 13(3), 146-157.
- Driskell, J.E. & Salas, E. (2006). Groupware, group dynamics, and team performance. *Creating High-tech Teams: Practical Guidance on Work Performance and Technology*, American Psychological Association, 11-34.
- Drucker, P.F. (1999). Knowledge worker productivity: The biggest challenge. *California Management Review*, 1(2), 79-94.
- Dzinkowski, R. (2000). The measurement and management of intellectual capital: An introduction. *Management Accounting*, 78(2), 32-36.
- Furnham, A. (1992). *Personality at Work*. London: Routledge.
- García-Barriocanal, E. & Sicilia, M.-A., & Sánchez-Alonso, S. (2012). Computing with competencies: Modelling organizational capacities. *Expert Systems with Applications*, 39(16), 12310–12318.
- Goleman, D. (1998). *Working with Emotional Intelligence*. New York: Bantam.
- Groves, K.S. (2007). Integrating leadership development and succession planning best practices. *Journal of Management Development*, 26(3), 239–260.
- Harzallah, M., & Vernadat, F. (2002). IT-based competency modeling and management: from theory to practice in enterprise engineering and operations. *Computers in Industry*, 48(2), 157–179.
- Huang, Y. & Singh, P.V. & Ghose, A. (2015). A structural model of employee behavioral dynamics in enterprise social media. *Management Science*, 61(12), 2825-2844.
- Hsu, Y. (2017). Work values, conflict, and team cooperation among engineering designers. *Journal of Engineering Design*, 28(10–12), 799-820.
- Johnson, S. & Cooper, C.L. & Cartwright, S. & Donald, I. & Taylor, P. & Millet, C. (2005). The experience of work-related stress across occupations. *Journal of Managerial Psychology*, 20(2), 178–187.
- Kaplan, R.S., & Norton, D.P., & Le Tableau de Bord Prospectif. (1998). *Pilotage stratégique: les 4 axes du succès*, Les Editions d'Organisation, Paris.
- Keyton, J. & Beck, S.J. & Asbury, M.B. (2010). Macrocognition: a communication perspective. *Theoretical Issues in Ergonomics Science*, 11(4), 272-286.
- Kuegler, M. & Smolnik, S. & Kane, G. (2015). What's in IT for employees? Understanding the relationship between use and performance in enterprise social software. *Journal of Strategic Information Systems*, 24(2), 90-112.
- Kwahk, K.Y. & Park, D.H. (2016). The effects of network sharing on knowledge-sharing activities and job performance in enterprise social media environments. *Computers in Human Behavior*, 55, 826–839.
- Leonardi, P.M. & Meyer, S. R. (2015). Social media as social lubricant: How ambient awareness eases knowledge transfer. *American Behavioral Scientist*, 59(1), 10–34.

- Liu, X. & and coll. (2005). A study of enterprise human resource competence appraisalment. *Journal of Enterprise Information Management*, 18(3), 289-315.
- Mayer, J.D. & Di Paolo, M.T. & Salovey, P. (1990). Perceiving affective content in ambiguous stimuli: a component of emotional intelligence. *Journal of Personality Assessment*, 54, 772-781.
- Michel, S. (1997). Le savoir est-il une compétences, in: Proceeding of Conference on Compétences and Contextes Professionnels, Metz, pp. 7-13.
- Morris, P. & Pinto, J. (2007). The Wiley Guide to Project Organization and Project Management Competencies. John Wiley & Sons, Hoboken, New Jersey.
- Mossholder, W.K. & Settoon, R.P. & Armenakis, A.A. & Hatris, S.G. (2000). Emotion during organizational transformations: an interactive model of survivor reactions. *Group and Organization Management*, 25(3), 220-243.
- Ortbach, K. & Recker, J. (2014). Do Good Things and Talk about Them: a Theory of Academics Usage of enterprise Social Networks for Impression Management Tactics.
- Pitafi A.H., & Kanwal, S. & Ali, A. & Khan, A.N. & Ameen, M.W. (2018). Moderating roles of IT competency and work cooperation on employee work performance in an ESM environment. *Technology in Society*, 55, 199-208.
- Pfeffer, J. (1998). The Human Equation: Building Profits by Putting People First. Harvard Business School Press, Boston, MA.
- Pugh, S.D. (2001). Service with a smile: emotional contagion in the service encounter. *Academy of Management Journal*, 44(5), 1018-1028.
- Rietzschel, E.F. & Slijkhuis, J.M. & Van Yperen, N.W. (2014). Task structure, need for structure, and creativity. *European Journal of Social Psychology*, 44(4), 386-399.
- Rodriguez D, & Patel R, Bright A, & Gregory D, & Gowing, M.K. (2002). Developing competency models to promote integrated human resource Practices. *Human Resource Management*, 41(3), 309-324.
- Ruscio, A.M. & Amabile, T.M. (1999). Effects of instructional style on problem-solving creativity. *Creativity Research Journal*, 12(4), 251-266.
- Salas, E. & Sims, D.E. & Burke, C.S. (2005). Is there a "big five" in teamwork?. *Small Group Research*, 36(5), 555-599.
- Schippmann, J.S., & Ash, R.A., & Battista, M., & Carr, L., & Eyde, L.D., & Hesketh, B., & Sanchez I. (2000). The practice of competency modeling. *Personnel Psychology*, 53(3), 703-740.
- Shahhosseini, V. & Sebt, M.H. (2011). Competency-based selection and assignment of human resources to construction projects. *Scientia Iranica*, 18(2), 163-180.
- Stark, E. & Bierly, P. & Harper, S. (2014). The interactive influences of conflict, task interdependence and cooperation on perceptions of virtualness in co-located teams. *Team Performance Management*, 20(5-6), 221-241.
- Tiferes, J. & Bisantz, A. (2018). The impact of team characteristics and context on team communication: An integrative literature review. *Applied Ergonomics*, 68, 146-159.
- Tobór-Osadnik, K. (2018). Working competencies as a factor of building working groups in mining enterprises. IOP Conference Series: Earth and Environmental Science. 198 012016.

Wildman, J.L. & Thayer, A.L. & Rosen, M.A. & Salas, E. & Mathieu, J.E. & Rayne, S.R. (2012).
Task types and team-level attributes: synthesis of team classification literature.
Human Resource Development Review, 11(1), 97-129.