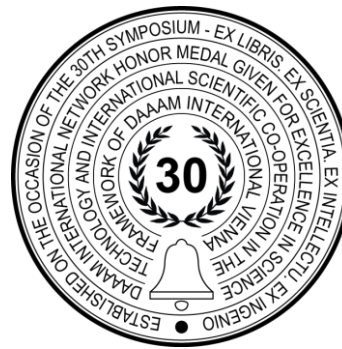


DIGITAL KNOWLEDGE AND SKILLS – KEY FACTORS FOR DIGITAL TRANSFORMATION

Natalija Kokolek, Bozidar Jakovic & Tamara Curlin



This Publication has to be referred as: Kokolek, N[atija]; Jakovic, B[ozidar] & Curlin, T[amara] (2019). Digital Knowledge and Skills – Key Factors for Digital Transformation, Proceedings of the 30th DAAAM International Symposium, pp.0046-0053, B. Katalinic (Ed.), Published by DAAAM International, ISBN 978-3-902734-22-8, ISSN 1726-9679, Vienna, Austria
DOI: 10.2507/30th.daaam.proceedings.006

Abstract

Digital transformation as a driver of positive and radical changes represents a complex issue which affects all segments of the society and the whole economy. Purpose and ultimate goal of this process are effective business processes and operations with intensive use of information and communication technologies. The research topic of this paper is the impact of digital transformation process of private and public companies in the Republic of Croatia. Identification of the key factors which have a major impact on the successful implementation of the transformation process will be presented within research model. Investigation of these relevant topics in this paper is based on a survey aimed at medium and large-sized companies in Croatia. The results of qualitative part of research indicate that key factors digital knowledge and skills greatly enhance the process of digital transformation in Croatian enterprises in private sector compared to public sector companies which suggests that private sector companies are at a higher level of digital transformation than public companies, in the context of leadership skills and development of digital skills.

Keywords: Digital Transformation; Digital Knowledge; Digital Skills; Chi-Square

1. Introduction

The invention of the computer, creation of the computer support systems, and their availability to allow and facilitate communication and information exchange establishes a new era with numerous possibilities and with a brand new term, a term of Information communication technology (ICT). Nowadays, ICT has a massive influence on business and everyday activities worldwide. ICT represents a fundamental key for creating company strategies that have a significant impact on diverse business parameters and, consequently, subsidize company value, prosperity, and business improvement.

Recent business trends and present systems in business would be impossible to function without constant development of Information Communication Technology, which serves as a support system and innovation generator. During the last few decades, the entire industry, each job position, and modern everyday life became affected by the forceful progress of ICT. Its massive impact on the ways that businesses operate, employees' performance, and people live significantly

contributed to the emerging of new organizational conformations and transformation from traditional, classical enterprises.

Digitalization is one of the essential components for shaping an open computer system model, a phrase that determines the path toward digital businesses and its extensive element of digital transformation. The leading goal of contemporary businesses is, by utilization of digital technology and digital data, to advance their businesses, redesign their existing business processes and create an environment for digital business.

If we focus on the Croatian economy and the introduction of new business technologies and the trends that information technology provides us today, the question is whether they are more successful companies from the private sector or the public in the process of digitalization and in the implementation of digital transformation. It is assumed that the private sector is more recognizing and understanding the need to accelerate the digitalization process and the importance of the digital economy for the development of the economy and society. By identifying the key factors for digital transformation affecting the private and public sectors, the higher level of digital knowledge and skills development between sectors will be analyzed and determined.

2. Digital transformation

Over the last few years, digital transformation became a critical phenomenon in academic and practical research. The essence of digital transformation is that it includes a wide range of transformations developed from digital technology usage. Integration and acceptance of the new, digital technologies are some of the leading challenges which the economy and society are currently confronted with. Business operations have changed, and digital transformation presents a complexed matter which affects many or even overall social aspects. None industry or organization stayed immune to the impact of the digital transformation, and presumption is that technology influence can not be abided. Investigations showed that technology represents just one piece of a complexed puzzle, which has to be a solution for organizations in order to try to remain competitive in a digital environment. Presented sequence discloses that the time to cope with the new skills and abilities which digital transformation and digital technologies offer has come [1].

Shirky highlights that it is easier to manage technology changes in the, for instance, automobile, when it takes a straightforward move to either fasten or slower the machine [2]. On the other hand, when it comes to changes that bring digital technology and digital transformation, it can be compared to kayak anchoring. A current is flowing us by its speed and strength, in its own direction, and the only thing which is up to us is to take a position and maintain so that the kayak does not tip over. Presented in a simple and graphic way, digital transformation exemplifies a complexed question that has an impact on all segments of society. Krajina and Perišin conclude that not everybody takes part in changes reported above, just the ones "with the desire to survive" [3]. As a result, tackling digital transformation and the need to maintain competitiveness have been placed high on the agenda.

Before defining the term, it is essential to clarify what is meant by "digital" in the term digital transformation. According to Schallmo and Williams, the adjective "digital" signifies how businesses operate their business. The definition of the "digital" can be divided into three main focuses: (i) creating value in new areas of the business world, (ii) optimizing the processes that directly impact the customer experience, and (iii) building the core capabilities that underpin the overall business initiative. The term "digital" also refers to the multitude of forcefull, accessible technologies, and the transformation that enterprises must undertake in order to take advantage of the opportunities that technologies provide [4]. Gray and Rumpé point out that "digital" suggests numerous changes in society, business, and industry using information and communication technologies that enable real-time data processing, while the term "transformation" signifies a process that leads to a betterment [5].

According to Ross, many business leaders think of "digital" as advanced digitalization. However, in practice, "digital" demonstrates a different challenge for the enterprise than digital. In most industries, being digital has already become imperative. Digitization is a critical facilitator of digital transformation. Although, the process of digitization will not make a business digital on its own without a process of transformation [6].

Digital transformation indicates a relatively new concept. The terms "digitization" and "digitalization" that existed before, today form the part of the concept of digital transformation itself. Digitization and digitalization are conceptually two terms that are closely related and often used as synonyms, but there are essential differences that differentiate these two terms [7].

According to Tihinen, the notion of the "digitization" refers to the conversion of analog data into digital form, with the ultimate goal to design newly formed knowledge and to create new values for participants. To avoid confusion with digitalization, the simplest way to explain "digitization" is that it converts something that is not digital (paper documents, photo images, video, etc.) into a digital format. In the context of physical data carriers, we mostly digitize ourselves through business document scans. The scanned documents thus create a digital representation, which defines the

expression in the context of the process. The aforementioned second meaning and expression of digitization often become synonymous with automation [8].

Digitization involves the use of digital technologies and data to generate revenue, improve business, and replace or transform business processes. It also signifies a fundamental change in business activities and business models based on the newly acquired knowledge gained through the implementation of value-added digital initiatives [9]. In business, digitalization is a term more closely related to digital transformation. It represents the next phase after digitization, not only addressing the path to digital business but also creating the capabilities and conditions required for a business to put digital transformation at the heart of the business. Although digitalization is also about changing business and business models, digital transformation represents a much broader scope, that is, it requires digital business and digitization and the construction of a far greater number of "bridges" along the planned path.

With the evolution of civilization today, the process of transition to the digital economy is irreversible. Digital transformation through new trends related to technological, social, and economic aspects of the use of information and communication technologies marks the phenomenon of transition from the traditional economy to the economy based on network information, faster decision making with the emergence of new business models in the modern world. As digital transformation as a phenomenon has become a frequently mentioned word not only in the field of technology and business, Sofronjević, Miličević, and Ilić present digital transformation as a significant social phenomenon [10].

The concept of a digital transformation is at a high-level concept that is easy to envisage. It points out that goods that were once solely in the physical world are nowadays moving towards the digital. The idea of digital transformation, according to Sebastian et al., comes from the blending of personal and corporate environments and captures the transformational impact of new digital technologies [11]. It describes the changes that have taken place at the individual, organizational, and social levels, which are relevant in relation to the previous situation, and which are happening under the influence of digital technologies, which in reality involves much more than the end result itself [12]. However, digital transformation is not just about technology. It is also about strategy and a new way of thinking since transformation for the digital age requires an upgrade of strategic thinking, stated Rogers [13]. Digital transformation is consistent networking of all sectors of the economy and adaptation to the new reality of the digital economy. Only to determine the evolution of the term digital transformation was presented by the IBM Institute for Business Value mentioned in Kreitstshstein's work [14]. Characterized by digital transformation as the influence and focus of the Internet and global connectivity, that is, according to researchers, the economic impact of digital technologies between the late 1990s and 2010 led to the creation of digital products and the development and digital transformation of business models, suggesting their approach to achieving digital transformations must integrate digital capabilities into the day-to-day operations of the organization and in the business world affect any of the sectors in the economy, Heilig and his associates point out [15].

The term digital transformation can be categorized from the two different perspectives: organizational and contextual. An organizational view includes the process of change by a particular organization, hence contextually, it encompasses a broader phenomenon affecting a specific operating environment or generally speaking global environment. A more accurate perception views digital transformation as the use of digital technologies in three organizational dimensions: (i) external, (ii) internal and (iii) holistic. Externally, the emphasis is on digitally enhancing the customer experience and changing the overall organization cycle, while internally influencing business with decision making and organizational structure. The holistic dimension, which involves the integration of all segments and functions of an organization, also leads to the creation of brand new business models, highlighting the degree of complexity of digital transformation over previous ICT transformations [16]. Digital transformation has been considered one of the significant challenges in all industries in recent years without exception, and with these points of view, scientists agreed that it is linked to a fundamental shift by achieving superior performance in internal, external, and overall dimensions.

The result of digital transformation implementation is the expansion of the use of information and communication technology in the day-to-day work of the institution. Nonetheless, in practice, there is a need to identify the supporters and critical factors which drive the digital transformation process.

It's essential for the digital organization to operate in an ongoing and ever-evolving society and in order to successfully achieve new digital goals and roles. According to Sommerfeld and Moise-Cheung, understanding the concept of digital transformation is one of the key factors in accomplishing those goals and roles [1]. As the term digital and the term digital transformation have different meanings across organizations, it is necessary to specifically define what digital transformation means so as not to represent an unfamiliar concept to employees and within the organization.

Magro et al. provide the most comprehensive analysis of critical factors by providing an overview of eight factors which support organizations to tackle the digital transformation process [17]. Digital Knowledge, Information Management, Digital Communication, Networking, Continuous Learning, Strategic Vision, Network Leadership, and Customer Orientation represent the factors and skills of an organization, as well as influential business tools for the 21st century. Digital data is a crucial factor in production in all spheres of socio-economic activity [18].

Digital knowledge means the ability to act in the digital economy, both privately and professionally. Increasing productivity and accelerating innovation are new ways to manage processes while enhancing flexibility and ability to respond and anticipate, and managing talent and enhancing knowledge in the business environment are all contributors to the organization. In order for an organization to be able to manage and use digital resources, continuous learning is needed, which is the leading way to maintain a competitive edge. It also encourages the creation of internal networks for learning and keeping the organization up-to-date and competitive in the market. By identifying key factors for digital transformation

3. Methodology and Sample Description

In this research, medium and large-sized companies in the private and public sector in the Republic of Croatia with more than 50 employees, were defined as a sample. Medium and large-sized companies are defined according to the Accounting Act and indicators of the amount of total assets, revenue and average number of employees in the course of the financial year. Medium-sized companies have an average number of employees from 50 to 250 and total assets do not exceed of HRK150 million with a revenue of up to HRK 300 million. Large-sized companies are those which exceed any two of the indicators mentioned in medium-sized companies. In this research, the number of employees was used as the main criterion for the size of companies, and according to the Register of the Croatian Chamber of Economy and the Ministry of Finance, a total of 1,222 medium and large companies from the private and public sectors were included in the sample.

The chosen statistical method, which involves collecting data on respondents' perceptions, opinions and attitudes, was a survey, as one of the most commonly used data collection techniques in social research. The target population is the management of the company, whether it is the president, member of the management or directors who have knowledge of the research topic. The opinions of business representatives are of particular importance, and given that digital transformation is a phenomenon that is still relatively little known and under-researched, the type of sample selected is justified and of particular importance. Steps in which the qualitative analysis was conducted were the questionnaire design, sampling, sending, collecting and analysing survey data and results.

An empirical research of the impact of digital transformation on the business of private and public companies in the Republic of Croatia was conducted by a survey on a sample of medium and large-sized companies operating in the Republic of Croatia [19].

The survey was consisted of 40 questions which includes three open-ended questions and others were closed-ended questions collecting data on the demographic characteristics of respondents, a group of questions related to identifying the key factors for digital transformation and their impact on business operations in the private and public sector and a group of questions related to determining the degree of digital transformation of companies within the research. Statements used in measurement scales related to a group of questions about identifying key factors and determining the degree of digital transformation were either originally developed for research purposes or revised and adapted from pre-existing measurement scales that can be found in the relevant scientific literature. The analyzed period covers the period from 2010 to 2015, and the data obtained were analyzed using SPSS (Statistical Package for the Social Sciences) statistical program.

The survey involved the collection of responses in the form of an online survey which was distributed via email in the period 10/2017- 6 2018. with explanation of the purpose of the survey and instructions for completing it. The survey was sent to 1,100 companies operating within the Republic of Croatia and 387 surveys were completed, which represents a return rate of 35.18% which is completely acceptable for this type of research.

Based on this, a sample of a total of 83 female respondents and 304 male respondents was obtained in this study, which makes a total of 387 respondents. According to the number of employees, 207 respondents (53.5%) work in a medium-sized company up to 250 employees. The remaining 180 (46.5%) respondents are classified as large company over 250 employees.

In order to process digital transformation process to be successful and lead to positive outcomes and results, it must be considered a number of key factors which companies should acquire and develop in the transformation process. In this sense, the first research hypothesis is examined to determine whether the implementation of digital transformation is largely present in the private or public sector. The following is an overview of the results of the research in relation to the first hypothesis, which states:

H₁: The implementation of digital transformation is largely present in the private sector than in the public sector.

The purpose of this analysis is to determine which sector has implemented the digital transformation process to a greater extent, and as part of the first hypothesis, the research assumes the application of the concept of key factors as

enabler of successful implementation and to support the process of digital transformation within the business. The following key factors are identified in Figure 1.

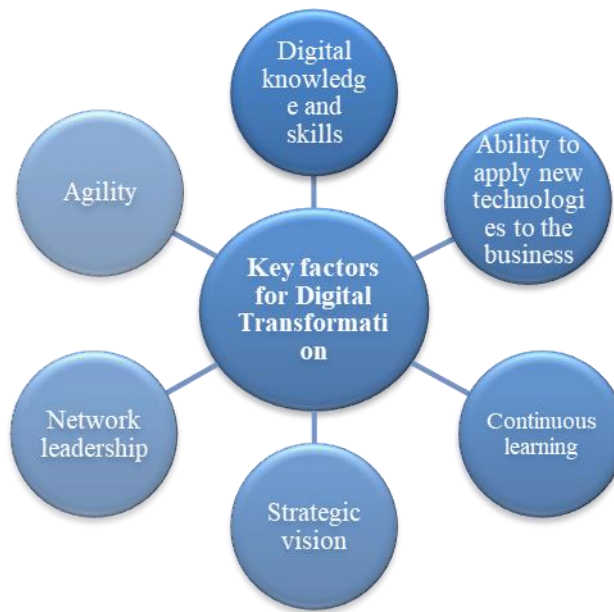


Fig. 1. A model of key factors for digital transformation

The model combines six key factors which companies should acquire and develop to deal with disruptive forces and digital transformation process. Their application as a whole has a major impact on the success of introduction and implementation of processes in companies.

In this research, the respondents were asked to evaluate companies level related to given statements in survey. Using the Chi-Square test the relationship between the respondent's opinion and the affiliation of the company to the private or public sector was determined. The Chi-square test is one of the most commonly used non-parametric tests in empirical studies to test for differences between observed and expected frequencies.

4. Research results

Digital knowledge and skills implies the ability to operate in the digital economy on a professional and personal level. It means having in-depth understanding of the environment and the nature, role and opportunities generated by the digital environment in any aspect of your life. Within this factor, respondents' opinion on the development of digital skills in the company where they work was examined. The first statement was related to respondents' assessment of the extent to which their companies are capable of operating and spreading digital knowledge on a professional and personal level. The results of the first statement are in Table 1.

		Rating levels of ability					0	1	2	3	4	Total
Ownership	Private	Count	17	63	122	92	23	317				
		% within Business ownership	5,4%	19,9%	38,5%	29,0%	7,3%	100,0%				
	Public	Count	9	18	27	16	0	70				
		% within Business ownership	12,9%	25,7%	38,6%	22,9%	0,0%	100,0%				
Total		Count	26	81	149	108	23	387				
		% within Business ownership	6,7%	20,9%	38,5%	27,9%	5,9%	100,0%				

Legend: 0 = not at all, 1 = small degree, 2 = moderate degree, 3 = high degree, 4 = very high degree

Table 1. Companies distribution in relation to the ability to acquire digital knowledge

According to the results in Table 1., the respondents whose enterprises belong to the private sector rated their ability to a higher degree than the respondents whose enterprises operate within the public sector. Numerically, 36.3% of respondents believe that companies in private sector give a strong and extremely strong, or crucial, emphasis on the ability

to transfer digital knowledge at a professional and personal level within company, as opposed to the public sector where 22.9% of respondents give the same grades. Therefore, the opinions of respondents are significantly different depending on whether they work in private or public sector.

However, different opinions of the respondents of private and public sector were checked and analyzed using a Chi-squared test. To perform a Chi-square test, the null and first hypothesis were established:

H₀: Respondent's opinion and rating of digital skills development does not differ depending on the ownership of the company in which they work.

H₁: Respondent's opinion and rating of digital skills development is very different depending on the ownership of the company in which they work.

The tested statistical significance between the respondents' opinions and the ownership of the company is shown in Table 2.

1.statement	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square (χ^2)	11,588 ^a	4	0,021
Likelihood Ratio	14,905	4	0,005
Linear-by-Linear Association	9,933	1	0,002
N of Valid Cases	387		

Legend: χ^2 = Value, df= Asymptotic Significance, (p) = empirical level of significance

Table 2. Statistical significance of the first statement within the digital knowledge and skills

The results of the Chi-square test indicate that there is sufficient evidence to reject the null hypothesis. At the significance level of 5%, there is a statistically significant difference between the respondents' opinions of assessed ability from the private and public sector which confirms the conclusion that the level of ability of private sector companies by respondents is rated higher than public sector companies whose respondents are rated the ability level to lower grades.

The same logic applies to other statements within the first factor. The following statement relates to an assessment of a company's ability to search, evaluate, organize and share information in a digital context. Then the ability to understand the digital phenomenon and strategic approach in the organization, and the last statement is related to the ability to orientate towards customers and understand the needs of new users in a digital context.

The results of the assessment of the aforementioned statements are shown in Table 3.

		Rating levels of ability	0	1	2	3	4	Total
2. Statement	Private	Count	18	58	117	93	31	317
		% within Business ownership	5,7%	18,3%	36,9%	29,3%	9,8%	100,0%
	Public	Count	8	19	25	17	1	70
		% within Business ownership	11,4%	27,1%	35,7%	24,3%	1,4%	100,0%
3. Statement	Private	Count	25	58	114	83	37	317
		% within Business ownership	7,9%	18,3%	36,0%	26,2%	11,7%	100,0%
	Public	Count	8	22	19	19	2	70
		% within Business ownership	11,4%	31,4%	27,1%	27,1%	2,9%	100,0%
4. Statement.	Private	Count	12	36	101	108	60	317
		% within Business ownership	3,8%	11,4%	31,9%	34,1%	18,9%	100,0%
	Public	Count	6	15	25	15	9	70
		% within Business ownership	8,6%	21,4%	35,7%	21,4%	12,9%	100,0%

Legend: 0 = not at all, 1 = small degree, 2 = moderate degree, 3 = high degree, 4 = very high degree

Table 3. Distribution of companies by ability in the remaining claims related to the first factor

The results presented in the Table 3. related to the remaining three statements within the first factor also indicate that the private sector respondents are rated higher than the respondents and the public sector companies.

Table 4. shows whether there is statistical significance between the respondents' opinions and the ownership of the company in the remaining statements.

R.br.	Chi-Square test	Value	df	Asymptotic Significance (2-sided)
2.Statement.	Pearson Chi-Square (χ^2)	10,450	4	0,033
3.Statement	Pearson Chi-Square (χ^2)	11,366	4	0,023
4.Statement	Pearson Chi-Square (χ^2)	11,567	4	0,021

Legend: χ^2 = Value, df= Asymptotic Significance, (p) = empirical level of significance

Table 4. Statistical significance of the remaining statements within the digital knowledge and skills

The results of the Chi-square tests rejected the null hypothesis and accepted the alternative hypothesis for any statement related to the development of digital knowledge and skills of the company. At the significance level of 5%, there is a statistically significant difference between the respondents' opinions of competence assessment between sectors, and it is concluded that at the level of the first factor, private companies are rated at a higher level of competence than public companies.

5. Conclusion

Digital transformation is a relatively new concept which is difficult to clearly define and represents a complex issue which affects all segments in the society and economy. Although digital transformation is a very topical subject in the literature, knowledge about how to initiate digital transformation is still not profiled and there are not enough practical examples and experiences to help companies to take concrete steps. Effective business is significant for the overall economy, and digital transformation is the driver of positive, yet devastating, market changes. The presence of digital technologies, which are increasingly entering into private life and business activities, changing the ways of performing business tasks, as well as participating in various activities of society, are greatly contributing to this.

In order to the digital transformation process to be successful and lead to positive outcomes, six key factors have been identified which companies should acquire and develop when dealing with the transformation process. In this sense, the first research hypothesis is examined to determine whether the implementation of digital transformation is largely present in the private or public sector.

With the provided insight into the current research effort in the field of digital transformation in the theoretical part, the main goal of the paper is to empirically investigate how digital knowledge and skills (implies the ability to operate in the company within the digital economy, both on a personal and professional level) influences the digital transformation of private and public companies in Croatia and to determine whether there are significant differences in rating levels of digital transformation between private and public companies.

The results showed that digital knowledge and skills, and abilities that the company is developing in increasingly more present in companies of the private sector compared to the public sector. Acceptance of the hypothesis and conclusions of the theoretical part shows the relevance when using the concept of key factors which facilitate the process of digital transformation in the case of Croatian companies more successfully in the private sector than in the public. The results of the qualitative research in this paper showed that the degree of digital transformation is higher in the private sector than in the public sector, thus confirming the research hypothesis.

6. Recommendations and research limitations

The conducted research has limitations which need to be taken into assessing the validity, reliability and generalization of results. There is a problem of bias, the respondent's subjective views and opinions.

Another limitation is related to the analyzed period of research which was determined by the availability of data with a note that it is not covered by the period before the economic downturn nor the period of economic recovery in progress.

The focus of this research is on the impact of the digital transformation on the business of medium and large-sized companies in Croatia. The recommendation for future research is to include and analyze small-sized companies, which

would increase the research sample and take into account the importance of small businesses as a generator of knowledge and innovation in the digital economy.

It would also be interesting to conduct a study on the example of a more digitally developed country within the European Union in relation to the conducted research for the Croatian economy, in order to gain insight into the impact of key factors and processes of digital transformation on the efficiency of business operations in more developed economies than the Republic of Croatia.

7. References

- [1] Sommerfeld, B. & Moise-Cheung, R. (2016). From a digital perspective: The digitally-fit organization. *Inside magazine*. 12(01), 42-53
- [2] Shirky, C. (2008). *Here comes everybody: The power of organizing without organizations*. London: Penguin Group
- [3] Krajina, Z. & Perišin, T. (2009). Digital News: Media, Technology and Society. *Social Research: A Journal for General Social Issues*. 18(6), 935-956
- [4] Schallmo, D. & Williams, C.A. (2018). *Digital transformation now! Guiding the Successful Digitalization of Your Business Model*. Switzerland: SpringerBriefs in Business
- [5] Gray, J. & Rumpe, B. (2017) Models for the digital transformation. *Software and systems modeling*. 16(2), 307-308
- [6] Ross, J. (2017). Don't confuse Digital with Digitization. *MIT Sloan Management Review*. Available from: <https://sloanreview.mit.edu/article/dont-confuse-digital-with-digitization/> Accessed on: 2019-09-14
- [7] Scott Brennen, J. & Kreiss, D. (2016). *Digitalization*. USA: John Wiley & Sons, Inc.
- [8] Tihinen, M. (2017). Digitalization: From digitizing to digital transformation. Available from: https://mycourses.aalto.fi/pluginfile.php/540649/mod_folder/intro/Digitalization%201.%20From%20digitizing%20to%20digital%20transformation.pdf Accessed on: 2019-09-14
- [9] Brennen, S. & Kreiss, D. (2014). Digitalization and Digitization. *Culture Digitally*. Available from: <http://culturedigitally.org/2014/09/digitalization-and-digitization/> Accessed on: 2019-09-14
- [10] Sofronijević, A. M. ; Miličević, V. K. & Ilić, B. J. (2017). Strategic approach to digital transformation of business. *Tehnika – Menadžment*. 67(2), 273-279
- [11] Sebastian, I.M. et al. (2017). How Big Old Companies Navigate Digital Transformation. *MIS Quarterly Executive*, 16(3), 197-213
- [12] Chahal, M. (2016). The truth meaning of digital transformation. *Marketing Week*. 04(2016), 16-20
- [13] Rogers, D. L. (2016). *The digital transformation playbook: Rethink your business for the digital age*. New York: Columbia University Press
- [14] Kreitshtstein, A. (2017). Digital transformation and its effects on the competency framework: a case study of digital banking. Bachelor's Thesis. University of Applied Sciences.
- [15] Heilig, L., Schwarze, S., Voß, S. (2017). An Analysis of Digital Transformation in the History and Future of Modern Ports. *Proceedings of the 50th Hawaii International Conference on System Sciences*. 2017, 1341-1350
- [16] Schuchmann, D., Seufert, S. (2015). Corporate Learning in Times of Digital Transformation: A Conceptual Framework and Service Portfolio for the Learning Function in Banking Organizations. *iJac*. 8(1), 31-40
- [17] Magro, C. et al. (2014). *Digital culture and transforming organizations*. Barcelona: RocaSalvatella
- [18] Zharova, A.; Elin, V. & Panfilov, P. (2018). Electronic Document as a Tool of Digital Economy, *Proceedings of the 29th DAAAM International Symposium*, pp.0479-0485, B. Katalinic (Ed.), Published by DAAAM International, ISBN 978-3-902734-20-4, ISSN 1726-9679, Vienna, Austria DOI: 10.2507/29th.daaam.proceedings.070
- [19] Kokolek, N. (2019) The impact of digital transformation on the business of private and public companies in the Republic of Croatia, Ph.d. Dissertation, Department of Informatics, Faculty of Economics and Business, Zagreb, Croatia