

# FRAMEWORK FOR ASSESSING THE COMPANY'S MATURITY OF DIGITAL BUSINESS TRANSFORMATION

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## **ABSTRACT**

Digital business transformation refers to the continuous application of digital technologies focused on the design of innovative business strategies and business models, new ways of management to provide customers with better products, services and especially experience of their use. There is a different methodology for assessing the company's maturity of digital business transformation. **The purpose of the paper** is to describe how to manage digital business transformation and apply one of the framework for assessing the company's digital capabilities within Croatian business practice.

**Keywords:** *Digital Business Transformation; Framework for Assessing the Digital Business Transformation; Transformation Capability.*

## **1 INTRODUCTION**

**Digital economy** is a new economy based on the mega processes such as accelerated science and technology development, globalization, computerization and where the productivity and competitiveness of companies depends on their ability to apply knowledge-based information and create of innovation. **Digital business transformation** refers to the continuous application of digital technologies focused on the design of innovative business strategies and business models, new ways of management to provide customers with better products, services and especially experience of their use. There is a different methodology for assessing the maturity of digital business transformation. **The purpose of the paper** is to describe how to manage digital business transformation and apply one of the framework for assessing the company's digital capabilities within Croatian business practice. **Chapter 2** describes the PDCA (Plan/Do/Check/Act) concept for managing the digital business transformation. **Chapter 3** describes the structure of the framework for assessing the company's digital capabilities. **Chapter 4** describes the results of the conducted assessment related to the company's transformation capability using the framework. The research was based on the interviews with business and IT managers, process owners within the concrete production company in Croatian business practice.

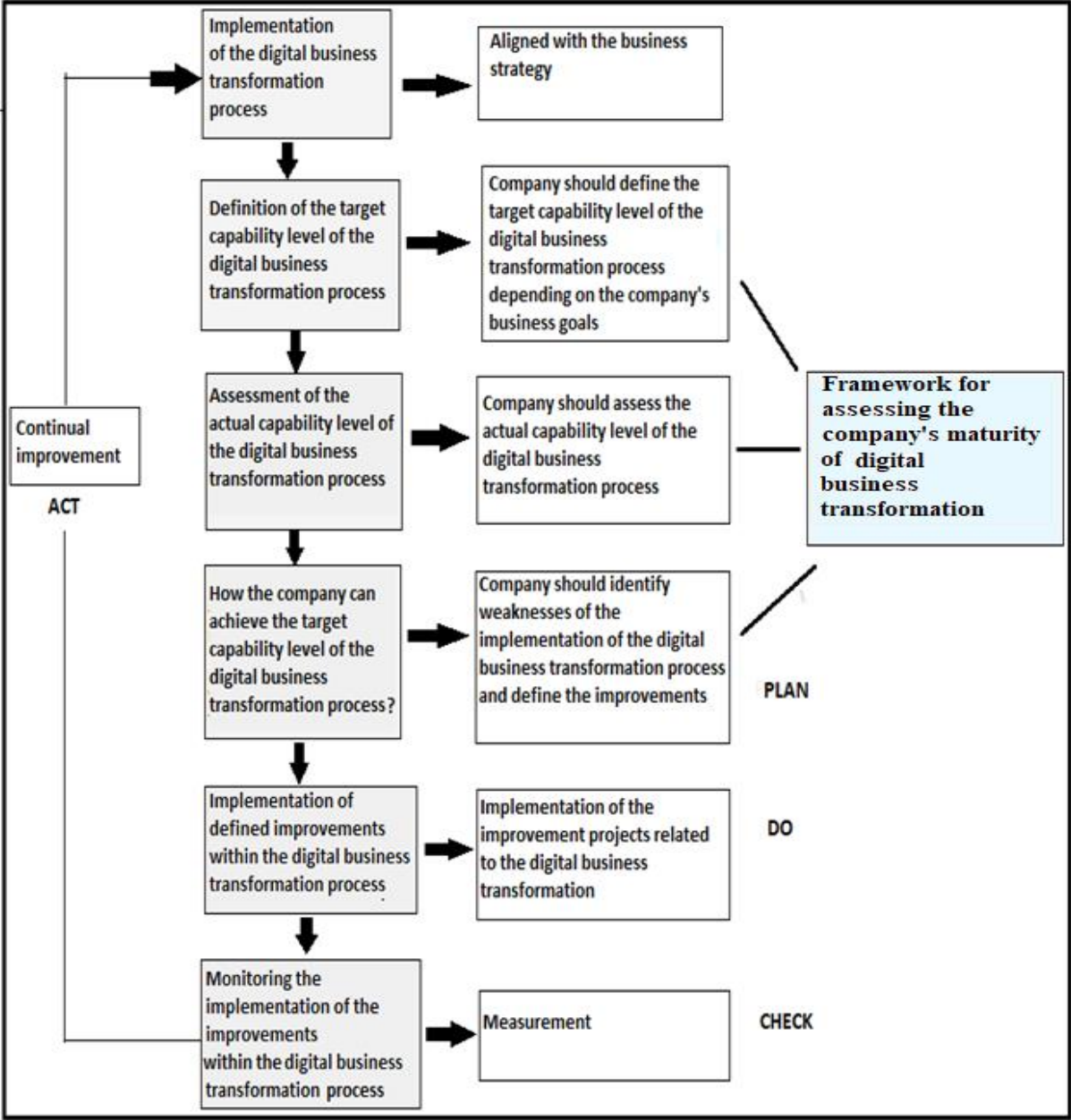
## **2 DIGITAL BUSINESS TRANSFORMATION**

Digital economy means new models of business, products, services, markets and emerging sectors of the economy that are based on digital technologies (Spremić, 2017).

Digital business models are the result of the transformation of common business models and represent all business activities that take place through digital technologies for innovation purposes. Disruptive innovations are the process of radical changes in classical business models in some industry using digital technology to create new values . Digital business transformation is the application of digital technology for the purpose of creating new sources of revenue and new business models. It is realized within the company through the simultaneous

implementation of changes in strategy, organizational structure, business processes and organizational culture. This transformation of the company ensures its competitiveness on the market (Spremić, 2017).

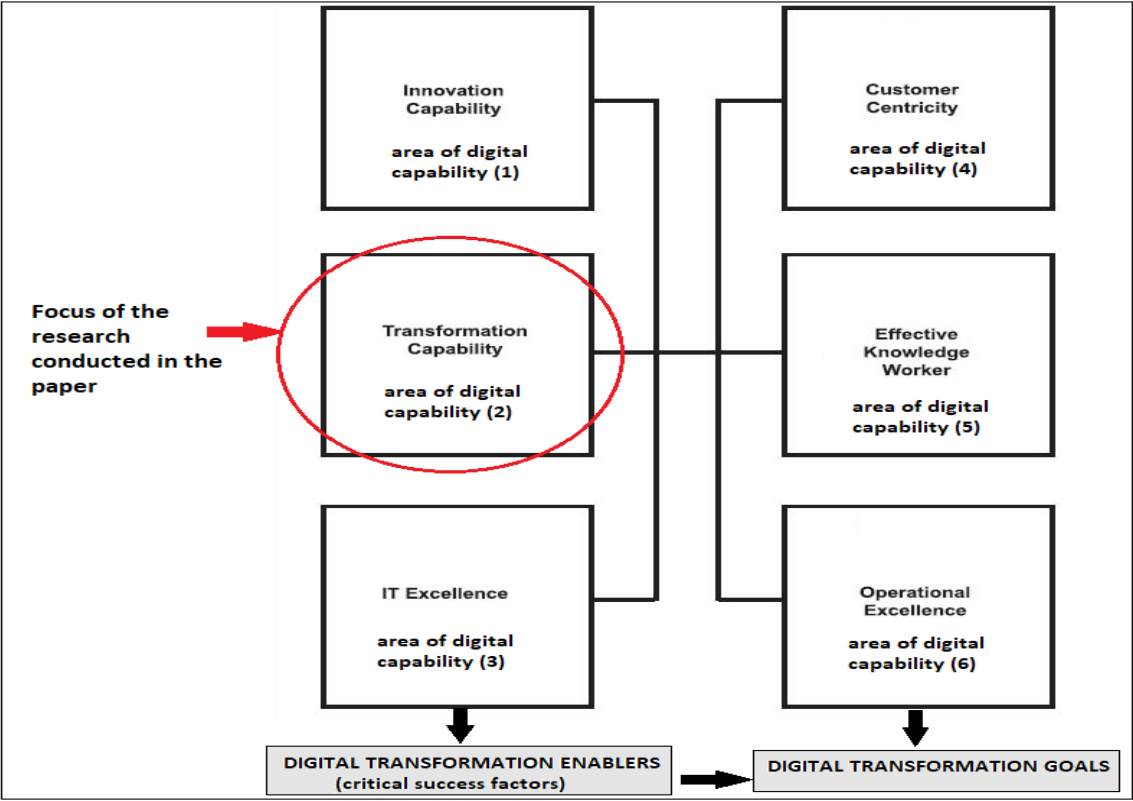
The digital business transformation within the company is a very complex process and therefore it is very important to manage its capability and continually define improvements (Kenett and Baker, 2010). In general, PDCA concept for managing the digital business transformation within the company is shown in Fig.1. **The purpose of this concept is to show how to assess the company's maturity of digital business transformation** in order to define the necessary improvements and achieve the desired maturity level of digital transformation. This was also the motivation for research that was conducted in the paper.



*Figure 1: PDCA concept for managing the digital business transformation (source: Author)*

### 3 FRAMEWORK FOR ASSESSING THE COMPANY'S MATURITY OF DIGITAL BUSINESS TRANSFORMATION

The paper describes the framework for assessing the company's maturity of digital business transformation. This framework offers 6 areas of digital capabilities that can be individually evaluated to achieve the overall maturity of digital business transformation within the company. The main areas for assessing the company's digital capabilities within the framework are shown in Figure 2 (Uhl et al, 2016). The company should to build a strong foundation for the implementation of the digital business transformation process. For this purpose, *the Digital Transformation Enablers* category includes three areas of digital capabilities: innovation capability; transformation capability (it was the focus of the research in the paper) and IT excellence. Furthermore, the framework has another category related to the *Digital Transformation Goals* that includes the following three areas of digital capabilities: customer centricity; effective knowledge worker and operational excellence. For digital companies, it is very important to have good quality relationships with customers on the one hand and motivated, educated and productive employees on the other. It is equally important to ensure the execution of the process in the most efficient way (operational excellence).



**Figure 2: Framework for assessing the company's digital capabilities**

Each of the six area of digital capabilities can be individually evaluated using the methodology that includes nine aspects of management (Uhl and Gollenia, 2012) and maturity levels from 1 to 5 (CMMI Product Team ,2006) (shown in Fig.3).

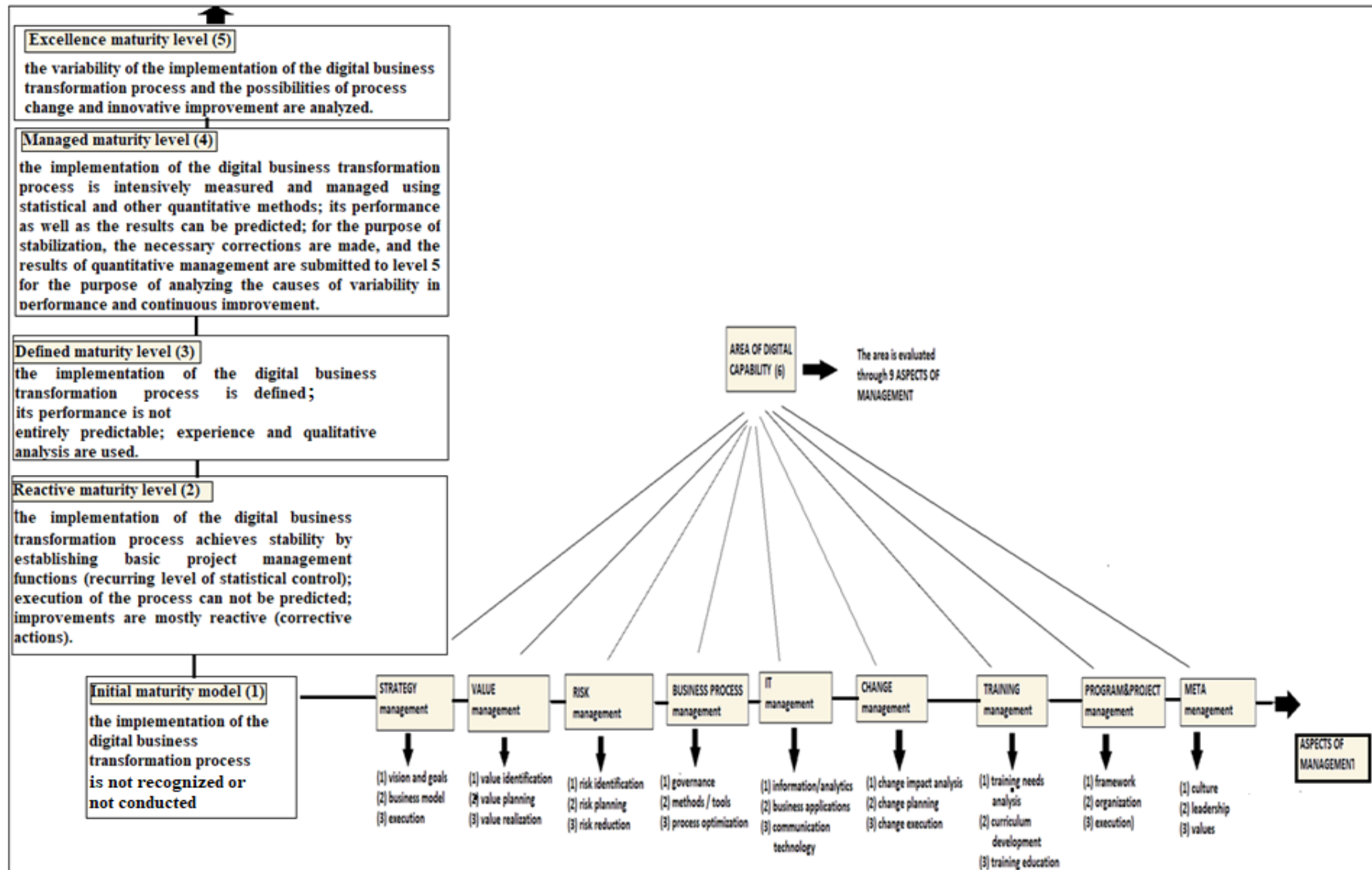


Figure 3: Aspects of management for assessing the company's digital capabilities (source :Author)

#### **4 APPLICATION OF THE FRAMEWORK FOR ASSESSING THE COMPANY'S TRANSFORMATION CAPABILITY**

Companies apply digital technology to improve their business processes. However, the digital business transformation process is much more complex and causes the overall structural changes throughout the company. Companies can be competitive if they have special knowledge and skills and other transformational capabilities to adapt to changing market and technological conditions (Labusch, Winter and Uhl, 2016). In addition, companies should continuously improve and change their business models using digital technology.

In the previous text within the paper, the concept of digital transformation is explained. The results of the research related to the maturity level of the transformation capability of the specific production company will be presented in the following text. In this way, the company can define improvements and manage their transformational capabilities as shown in the Figure 1.

**The scope of this research** includes one of the six areas of digital capabilities - **Transformation Capability (shown in Fig.2)**. This area was assessed through all nine aspects of management (shown in Fig 3). However, due to the scope of work, the results of the assessment for Strategy Management are shown in the Table 1. The results of the assessment for Business Process Management are shown in the Table 2. The overall results of the maturity of the company's transformation capability are shown in Fig.4.

*Strategy Management* analyzes the needs and causes of digital transformation. This aspect of management decides on the main goals of digital transformation and its alignment with the company's general vision. Furthermore, the goals must be linked to the overall business architecture and all business models within the company. Also, digital transformation can not be carried out internally within the company but includes all stakeholders.

*Value Management* provides key stakeholders with different techniques for identifying the value of digital business transformation, planning value realization, and tracking these benefits in order to make decision about improvements.

*Risk Management* focuses to the strategic and operational risks that may arise through the implementation of digital transformation. Risk assessment is a part of the risk management and the basis for further risk treatment. It includes the development of the plans and procedures for risk prevention or risk reduction at an acceptable level.

*Business Process Management* defines the scope of process changes consistent with the business strategy as well as business values that need to be realized through the transformation process. In order to identify, design, analyze and implement end-to-end business processes, the company must have adequate methods, tools, enterprise architectures. In this aspect of management, communication with the knowledge management process is important. Process optimization analyzes the variability in achieving the goals of the process and suggests process changes and improvements.

*IT Management* evaluates existing IT performance within the company and makes decisions about new changes based on the new technology in order to higher competitiveness.

Information analytics and defining the information architecture to integrate large quantities and types of data are very important for the company. In addition, it is important to ensure a high level of business application integration and management of their lifecycle. Communication technology provides communication capabilities through the transformation process within the entire company.

*Organizational Change Management* identifies the necessary changes and analyzes their impact on the entire company's business. Change impact analysis approves the changes according to the criteria such as finance, technology, feasibility. The necessary changes should be planned and aligned with the requirements of the stakeholders during the transformation process. It is necessary to evaluate the implemented changes and the company must have defined measurement methods and techniques for the implementation of such ratings.

*Training Management* focuses on the company's capabilities and individual skills as the key business success factors for the digital business transformation process. It is important to define the competencies and skills needed to implement the digital transformation process. In order to develop new content and resources needed to support the digital transformation process, it is important to conduct the curriculum development. Execution of training involves the implementation of training activities, as well as their continuous monitoring and improvement.

*Program and Project Management* involves the development of a relevant framework for managing transformational initiatives as programs or as projects. The process of digital transformation is a very complex process and requires a best practice model and a well-defined organizational structure for implementation. To manage transformational initiatives such projects it is important to define appropriate methods and tools. Furthermore, this aspect of management should monitor the execution of transformational initiatives as projects with regard to costs, quality and time.

*Meta Management* estimates the company's awareness of the importance and need of digital transformation, then assesses the support of leadership to carry out transformation projects and assesses whether the company identifies and achieves the business value of the transformation.

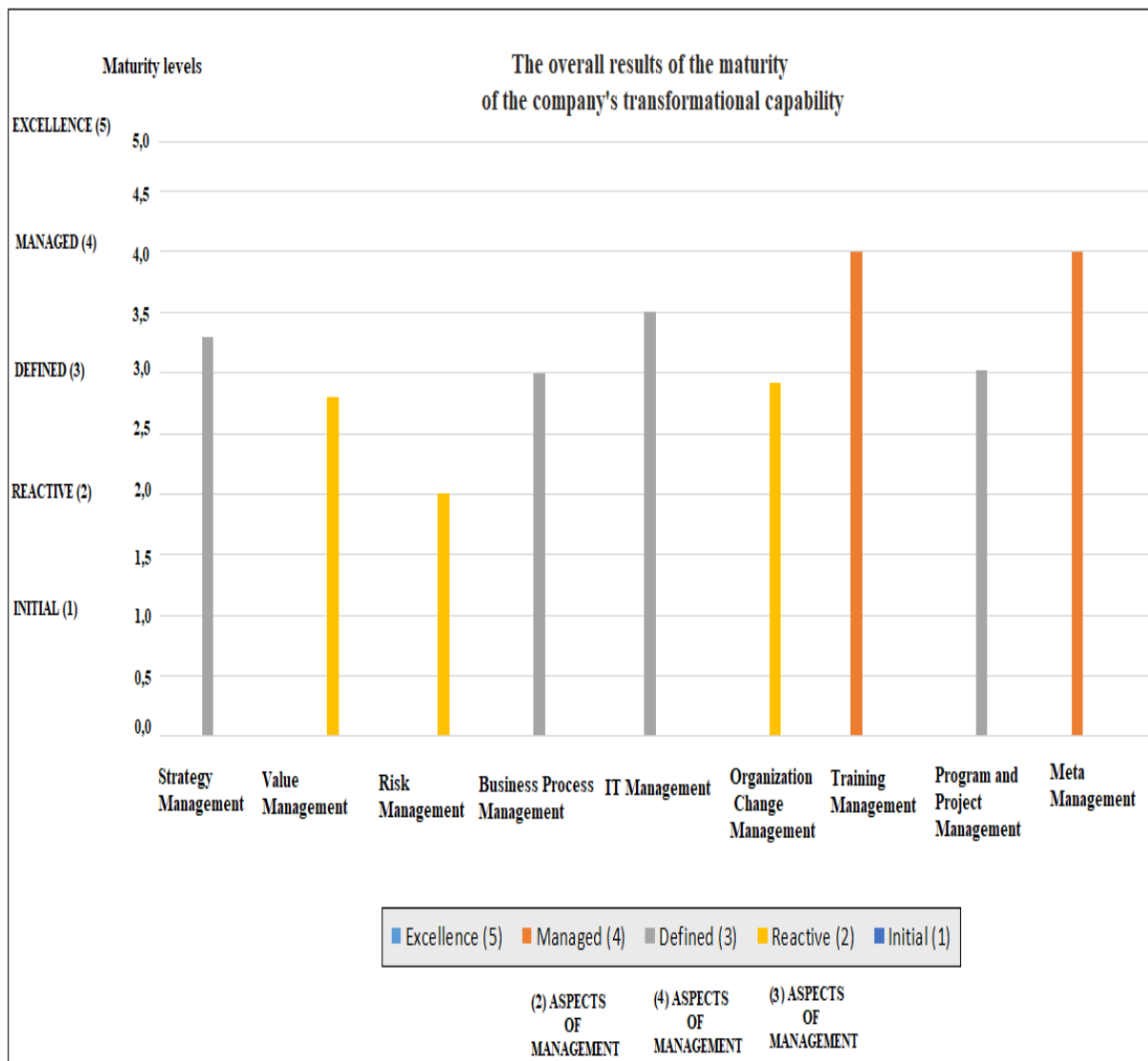
Assessed TRANSFORMATION CAPABILITY considering Strategy Management					
	INITIAL (1)	REACTIVE (2)	DEFINED (3)	MANAGED (4)	EXCELLENCE (5)
<b>VISION &amp; GOALS</b>	Transformation is not included in the vision of the company. Transformational strategies are not developed.	Transformation is included in the vision of the company. Transformational strategies are partially developed.	Transformation is included in the vision of the company. Transformational strategies are mostly developed.	Transformation is a key element of the vision. Transformational strategies are developed.	Transformation is a key element of the company's vision. Transformational strategies are fully developed.
<b>BUSINESS MODELS</b>	Transformation capability, knowledge, skills and competencies are not related to business models and their changes.	Transformation capability, knowledge, skills and competencies are partially related to business models and their changes.	Transformation capability, knowledge, skills and competencies are mostly related to business models and their changes.	Transformation capability, knowledge, skills and competencies are related to business models and their changes.	Transformation capability, knowledge, skills and competencies are fully related to business models and their changes.
<b>EXECUTION</b>	Strategic transformation projects are not executed.	Strategic transformation projects are partially executed.	Strategic transformation projects are mostly executed.	Strategic transformation projects are executed. Transformation strategy are executed.	Strategic transformation projects are executed and include all stakeholders in order to enhance the transformation capability of the company. Transformation strategy are fully executed.
<b>Maturity level for Strategy Management: 3.3</b>					

*Table 1: Maturity level of the strategy management for the transformation capability of the company (source: Author)*

Assessed TRANSFORMATION CAPABILITY considering Business Process Management					
	INITIAL (1)	REACTIVE (2)	DEFINED (3)	MANAGED (4)	EXCELLENCE (5)
<b>GOVERNANCE</b>	Business Process Management is not established. Processes are not integrated or documented.	Business Process Management is partially established. Key business processes are integrated.	Business Process Management is mostly established. Business processes are integrated through most of the company's departments.	Business Process Management is fully established. Business processes are integrated and documented.	Business Process Management is integrated through the company and supports the digital transformation initiatives.
<b>METHODS &amp; TOOLS</b>	There is no process management methods&tools.	Methods&tools partially support business process management.	Methods&tools mostly support business process management.	Methods&tools fully support business process management.	Methods and tools for the business process management are mandatory for all digital transformation initiatives.
<b>PROCESS OPTIMIZATION</b>	There are no metrics to assess the effectiveness of the process. There is no process optimization.	Processes are partially monitored for optimization.	Processes are mostly monitored for optimization.	Processes are fully monitored for optimization.	Processes are quantitatively monitored and optimized. Transformation (optimization) focuses to the quality standards. <i>(example of benefits: integration of new business concepts; digital business platforms; digital management; etc.)</i>
<b>Maturity level for Business Process Management: 3.0</b>					

*Table 2: Maturity level of the business process management for the transformation capability of the company (source: Author)*





**Figure 4: The overall results of the maturity of the company's transformation capability (source: Author)**

## 5 CONSLUSION

The described framework in the paper helps companies to include in the assessment all the important aspects of management required by the implementation of digital business transformation. According to the framework, there are six areas of digital capabilities that companies can estimate. In this paper, the transformation capability of the production company is assessed through the nine aspects of management. According to the research results it can be concluded that risk management has the low maturity level, while other aspects of management have better maturity level between 2 and 4. There are many reasons for these results. Some of them are the following: the process of digital transformation is a very complex process that requires adequate competencies and knowledge, relevant organizational structure, responsibilities, communication, modern architecture and business modeling tools, modern project management methods, risk management as well as relationship with quality standards. Furthermore, the described framework helps companies in how to manage the implementation of the digital transformation process and define the necessary improvements.

## BIBLIOGRAPHY

1. Andersson,P., Movin,S., Mähring,M., Teigland,R. & Wennberg,K. (2018). *Managing digital transformation*. Retrieved from <https://www.hhs.se/contentassets/7fa188ba496840d5a02612b980029895/managing-digital-transformation-med-omslag.pdf>.
2. CMMI Product Team (2006). *CMMI for Development, Version 1.2*. (CMU/SEI-2006-TR-008).Software Engineering Institute Carnegie Mellon University Pittsburgh, PA 15213.
3. ISO/IEC 15504–5:2012. *An exemplar software life cycle process assessment model*. ISO/IEC JTC 1/SC 7.
4. Kane, G.C., Palmer,D., Phillips, A.N., Kiron,D (2015). *Is Your Business Ready for a Digital Future?* MITsloan Management Review. Retrieved from [http://ilp.mit.edu/media/news\\_articles/smr/2015/56415.pdf](http://ilp.mit.edu/media/news_articles/smr/2015/56415.pdf)
5. Kenett, R.S.,Baker, E.R. (2010). *Process Improvement and CMMI for Systems and Software*. Taylor and Francis Group, LLC, U.S.A.
6. Labusch,N. Winter, R & Uhl, A.(2016). *Transformation Capability*. Retrieved from <http://www.gpmfirst.com/books/digital-enterprise-transformation/transformation-capability>.
7. Spremić, M. (2017): *Digitalna transformacija poslovanja*, Ekonomski fakultet Zagreb.
8. Uhl, A. and Gollenia, L.A. (2012) *A Handbook of Business Transformation Management Methodology*. Gower Publishing, USA.
9. Uhl, A., Born, M., Koschmider, A. & Janasz, T. (2016). *Digital Capability Framework: A Toolset to Become a Digital Enterprise*. Retrieved from <http://www.gpmfirst.com/books/digital-enterprise-transformation/digital-capability-framework-toolset-become-digital>.
10. Urbach,N., Drews1,P., Ross, J.(2017). *Digital Business Transformation and the Changing Role of the IT Function* Retrieved from [https://www.researchgate.net/publication/318113029\\_Digital\\_Business\\_Transformation\\_and\\_the\\_Changing\\_Role\\_of\\_the\\_IT\\_Function](https://www.researchgate.net/publication/318113029_Digital_Business_Transformation_and_the_Changing_Role_of_the_IT_Function).