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## **KEY CHARACTERISTICS OF ORGANIZATIONAL STRUCTURE THAT SUPPORTS DIGITAL TRANSFORMATION**

**Abstract:** Changes in business environment toward digitalization significantly impact on all market participants, especially organizations. In order to operate efficiently, organizations are enforced to adopt new patterns of business and to adequately apply innovative organizational solutions inherent for modern digital age. Digital transformation is an imperative for organizations due to their necessity to stay competitive on the market, so organizations should experience significant structural changes. Some of the most common organizational barriers to digital transformation are: unclear vision and objective of digital transformation, lack of management understanding, knowledge and experience, lack of leadership skills, lack of organizational agility, rewards and incentives that are not aligned to digital transformation, unclear measurement and rewarding system, lack of employee' involvement and engagement and employee' resistance to change. Digital transformation should be considered as a journey and long run process which make organization more adaptable on requirements of modern business. It brings a lot of advantages to the company, but we also should take into account some challenges that leaders and managers are faced with. One of those challenges is how to adequately prepare organizational structure that supports digital transformation. Speed and collaboration are the key factors that organizations need to achieve and master. That consequently means reducing the number of hierarchical levels, decentralization of decision making and greater collaboration among employees. As the traditional bureaucratic organizational models are rigid, without potential for further improvement in terms of new market conditions, it is obvious that new forms of organizational structure should be introduced. The purpose of this paper is to analyze the key aspects of organizational structure that supports digital transformation and to point out on possible solutions for organizational models in digital era.

**Keywords:** digital transformation, organizational structure, organizational design, digital organizational models.

### **1. INTRODUCTION**

Breakthrough of digitalization in the circumstances of volatile environment imposed significant changes in business processes and models (Lukić & Mirković, 2018). As dramatically changed environment means that organizations should adopt new patterns of functioning and embrace innovative culture (Mirković & Lukić, 2015), modern organizations are faced with an important challenge: how to operate efficiently and effectively in digital age?

All business segments experienced large transformation toward automation and digitalization during 21<sup>st</sup> century (Dudić et al, 2018) accelerating the attitude that digital transformation requires changes in the entire organization (adjustment of work processes, organizational structure etc.). There are also opinions that we are living in the era of digital Darwinism in which technology and society experience development and growth by faster pace than it is typical for organizations (Todosijević & Milačić, 2017, p. 357).

For contemporary organizations, digital transformation is not an option, already an imperative if they intend to survive and remain competitive on the market (Andriole, Cox & Khin, 2018). Fast growing organizations made prerequisites for creation of new values from “digital mindset”. By positioning customer’s needs at the center of digital transformation organizations intend to achieve new business success in the long run (Ruzsa, 2018, p. 371).

By reviewing the literature, there are a large number of papers that examined and analyzed the impact of technologies on digital transformation, but just few of them examined the organizational challenges that are of extraordinary importance for overall result of digital transformation (Gupta, 2018). The aim of this paper is to examine and analyze key characteristics of organizational structure that supports digital transformation.

## **2. DIGITAL TECHNOLOGIES: KEY FEATURES AND IMPORTANCE**

Every activity in today's world is becoming more and more digitalized (Foerster-Metz et al., 2018). Digitalization refers to the conversion of analogue to digital information that is readable by computer systems (Ernst & Young, 2011), while digital transformation is defined as the ongoing process of changing the ways existing companies carry out their businesses (Oestreicher-Singer & Zalmanson, 2011). There are many advantages that digital technology brings to organizations, such as: new business models, increased productivity, efficiency, flexibility, diversity, automatization of processes and activities. Furthermore, digital technologies lead to new ways of working and collaboration among employees, more mobility and better decisions (Foerster-Metz et al., 2018). Crucial goals, which every organization tend to achieve by digital transformation, are reflected into increase of operational efficiency, improvement of customer experience and reducing costs (Weill & Woerner, 2018).

Since the digital transformation rapidly changes industries, organizations should react quickly in order to create new business opportunities and seize novel market niches. In recent years, digital transformation runs into the epicenter of interests of researchers, organizations and business leaders (Andersson, Movin & Teigland, 2018). As digital transformation changes the whole business landscape of organizations, it is necessary to capture the extent of its usefulness. According to Westerman et al. (2011, p. 5), digital transformation means “use of technology in order to radically improve performance or reach of enterprises”. Others state that digital transformation describes the fundamental transformation of the entire business world through the establishment of new technologies based on the Internet with a fundamental impact on the society as a whole (PricewaterhouseCoopers, 2013). In the book of Mazzone (2014), digital transformation is viewed as ongoing digital evolution of a company, business model, idea, process, or methodology, both strategically and tactically.

Rapid changes in business environment and customer’s needs require an adequate response of organizations. The relationship between customers and organizations is reshaped by using digital interaction among them. At the same time, a significantly increased number of social platforms provided personalized and improved communication between customers and organizations, contributing to more sophisticated business operations. A relatively high rate of new technologies adoption via smart phones, social networks and other digital channels caused massive changes in consumers’ behavior among all industries (Vojinović et. al, 2017, p. 330). Although, the benefits from digital transformation are numerous, there is always another side of the same coin, so digital technologies are not the exception. There are many potential disadvantages and negative impacts which digital technologies could bring such as: social isolation of employees, loss of employees’ identity, dehumanization, fear for job lose, pressure, poor balance between work and private life, higher complexity of tasks, disrupted communication (Lukić, 2014; Foerster-Metz et al., 2018).

### **2.1 The most common barriers to digital transformation for organizations**

A lot of organizations are focused on the greatest technologies they have bought, but they have shrinkage of skills and capabilities to use these technologies in proper way in order to create new or improve existing value (Van der Bel, 2018). The main obstacle for failure or poor progress of digital transformation is unprepared organization (Gupka, 2018). If there are rigidity, silo structure, poor communication and bulk of formalization and rules, that certainly would slow down the entire organization (De Smet & Gagnon, 2018).

Key characteristics of truly digital organizations are responsiveness, openness and efficiency (Hughes, 2017). Digital organizations need to respond rapidly to customers changing needs, habits, desires and expectations. A lot of organizations put effort and time in examining and understanding customers using new digital technologies, but they fail in the process of responding. One of the reasons for this failure is disengagement of employees (Hughes, 2017). Isolated awareness and willingness of small number of employees to use digital technology and make new value for organization is not enough. Each employee in organization should be engaged to use chances and opportunities that digital technologies bring. Second reason for failure or poor results of digital transformation is resistance to change (Gupta, 2018). Digital transformation could have positive impact on each employee within an organization (Stone, 2019). But, every change, no matter if it is positive or negative, disturbs people because every human being desire stability (Keyes, 2000). Employees resist changes during digital transformation, because those adjustments are followed by changes in working activities, responsibilities etc. They have habits on which they are used to and consequently they feel fear of the unknown, but also fear of poor results (Gupta, 2018).

There can be identified several organizational barriers to digital transformation (Gupta, 2018):

- Unclear vision and objective of the digital transformation
- Lack of management understanding, knowledge and experience in digital transformation
- Lack of organizational agility
- Lack of digital leadership skills (forward looking, understanding of technology, open-mind, collaboration)
- Inflexible organizational culture
- Rewards and incentives are not aligned to digital transformation
- Unclear measurement and rewarding systems
- Lack of employee' involvement and engagement
- Employee' resistance to change

According to Kohnke (2017), major barriers to digital transformation regarding organizational design are: no sense of urgency, unclear roles and responsibilities of employees, non-adjusted and to rigid organizational culture, lack of internal talents for digital projects, inability to react fast, inability to adopt an experimental and innovative culture and inflexible business processes.

In designing organizational structure that supports digital transformation, leaders and managers should be aware of several issues. Those issues are (Schreckling & Steiger, 2017):

- Are digital initiatives established only in separate organizational units or they are integrated into entire organization?
- How the mechanisms of coordination are established among different organizational units regarding digital initiatives?
- What new job positions are required in organizations in order to work with digital technologies? Any organization which implements new technologies must be focused on its most important resources – employees, because at the end of the story, the destiny of implemented technologies is in their hands (Lukić, 2016).
- How to train and educate employees in order to use digital technologies in their working processes and activities?
- How to establish performance measurement system, key performance indicators, incentives and compensation plans in order to improve digital transformation?

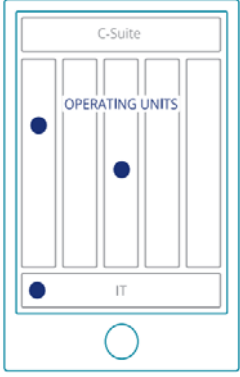
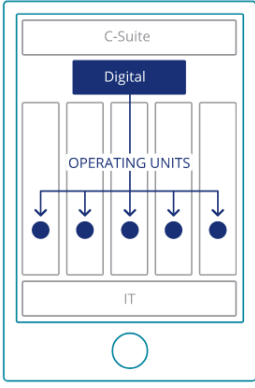
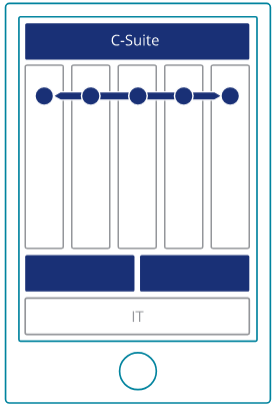
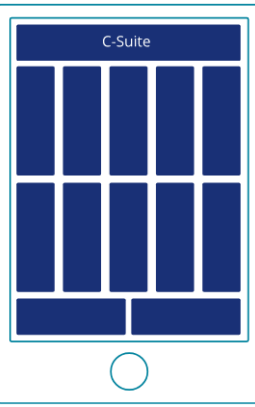
## **2.2. Organizational structure that supports digital transformation**

Each organization, no matter of size, market, history, tradition, location, number of employees, number of products, number of customers, realize that it needs to be more “digital” in the sense of agility, flexibility, responsiveness to changes in customers’ needs and expectations. Digitalization should be considered as planned and systematic approach (Parviainen et al., 2017) with aligned business and ICT strategies (Manca et al., 2018). In the last couple of years, the focus of digitalization has changed, from core processes and activities as the key objects of digitalization to all business processes. In fact, organizations reinvent entire business processes and/or create new ones with digital technologies (Schreckling & Steiger, 2017).

Certain authors and practitioners have stressed that organizational structure which has proved to be effective in practice is characterized with more flattening structure, decentralized decision-making, greater collaboration and coordination, faster knowledge transfer among employees, knowledge networking, team working, proactive approach, horizontal communication, flexibility, agility (Miles et al. 2010; Bryant, 2014; Lazarević & Lukić, 2015; Lee & Edmondson, 2017; Lazarević & Lukić, 2018). The development of new forms of organizational structure was inevitable because old bureaucratic models were rigid, with strong internal and external boundaries and as such had no potential to quickly respond to changes in the rapid, hyper-connected environment (Petković & Lukić, 2014).

There can be identified four types of organization which are prepared for digital transformation. They are presented in Table 1.

Table 1: Organizational models for digital transformation

 <p><b>The Tactical Model</b>  <b>Key Moto:</b> Opportunism  <b>Description:</b> Operating units use digital technologies in order to achieve desired goals. Organizations that use this approach made significant investments in digital technology but they use this technology in one or few number of organizational units. This approach creates organizational silos, leads to non-coordinated approach and there is no real digital strategy.</p>	 <p><b>The Centralization Model</b>  <b>Key Moto:</b> Agenda setting  <b>Description:</b> Digital initiatives and ideas are centralized in one unit (usually named Digital unit) which operates and shares its resources with all operating units which need digital support. In this way organizational silos are broken down and priority initiatives for digital transformation are selected.</p>
 <p><b>The Champion Model</b>  <b>Key Moto:</b> Transformation  <b>Description:</b> Digital strategy is effectively communicated across all organizational units and is focused on key initiatives. The key goal is to share knowledge and possibilities regarding digital transformation across the entire organization.</p>	 <p><b>The Business as Usual Model</b>  <b>Key Moto:</b> Normality  <b>Description:</b> In this model, using digital technology is no longer something new and unusual, but it is something fully embedded in everyday working life. In such organization, each employee uses digital technologies in daily activities.</p>

Source: Adapted from Sommerfeld, B., & Moise-Cheung, R. (2016)

As it is presented in Table 1, there are four possible solutions for organizational models in organizations that use digital technologies. Starting from “Tactical model”, where digital technology is used within single operating unit, to “Business as Usual model” that is manifested into entire organization and encompass digital culture, processes, business models and technologies. In “tactical model”, digital technologies are used in an efficient and effective way to achieve business units’ targets, while in “centralization model”, digital strategies and funds are managed at an enterprise/corporate level, enabling organizations to scan the market for opportunities and provide a central team to work with business units for implementation. In “Champion model” business units have their own strategies, operational teams and budgets and the emphasis is placed on education and knowledge sharing (Ismail et al, 2017).

In order to determine which organizational model best suits to some company in terms of digital transformation, there are some questions that need to be answered. Those questions are:

- What are the key goals of digital transformation?; and
- What is the current level of digital maturity of the company?

For example, when starting digital journey and employing new talent, it is better to locate them in centralized group. On the other hand, more digitally mature organizations have more integrated digital operations (Davis-Peccoud et al., 2018). Reviewed literature recognized several paths for company's guidance when choosing their transformation journey's starting point. In that sense, Berman (2012) proposes three strategic paths as different starting points. The first path's starting point evolves around reshaping the operating model within the organization before reshaping the customer value proposition and experience through digitally enhanced products and services. The second path starts with transforming the value proposition before reshaping the operating model and the third alternative route transforms both simultaneously from the start (Berman, 2012).

In digital transformation of the organization is very important to achieve strategic alignment. This widely used term "strategic alignment" was made in order to reflect the alignment among: business strategy, organizational infrastructure and processes, information technology strategy and information system infrastructure (Venkatraman et al, 1993). Strategic alignment in above mentioned sense is the source of company's comparative advantage on the market and it could be also used in the context of digital transformation. Also, in the context of cloud computing as an innovative and disruptive technology Ross and Blumenstein (2013) accentuate the fact that a firm's competitive advantage will be realized when it better integrates its information and communication technologies (ICT) with the core business.

### 3. CONCLUSION

Digital transformation usually begins with great ambitions and assignment of significant human and financial resources of the organization. It is very important that enthusiasm is built-in throughout organization as the support for digital transformation and that the vast majority of employees clearly understand how much change is necessary. Transformation means the modification in the way of doing business and almost by the rule leads to productivity increase: either through achieving the same goals with less effort or through achievement of better results with the same effort. Implementation of digital technologies could lead to improved organizational results only through organizational change. Some of the most common organizational barriers to digital transformation are: unclear vision and objective of digital transformation, lack of management understanding, knowledge and experience, lack of leadership skills, lack of organizational agility, rewards and incentives that are not aligned to digital transformation, unclear measurement and rewarding system, lack of employee' involvement and engagement and employee' resistance to change. The key challenge for leaders and managers is establishing and nurturing the organizational structure, which is agile, flexible, responsive, open and innovative.

Digital transformation in organizations changes processes and operations in the manner which could not be completely anticipated. Sometimes, digital transformation leads to entirely new solutions. Beside initial enthusiasm and support of digitalization projects, it is necessary to maintain people engagement and to adjust permanently in compliance with volatile business environment. Transformation is not one-off job or activity, because it is almost impossible at the very beginning of the process to predict the effect of changes on all operations and whole organization at the end. It is important to understand how organizations function when they experience digital transformation, because only that is the right way to overcome organizational difficulties and find out the optimal path for prospective development.

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