Digital age trends in organizational design

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Digital Age Trends in Organizational Design

Undergraduate Thesis

Pave Bionda

Zagreb, September, 2023.

Faculty of Economics and Business

Trendovi Organizacijskog Dizajna u Digitalno Doba

Digital Age Trends in Organizational Design

Undergraduate Thesis

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Mentor: prof. dr. sc. Tomislav Hernaus

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1. INTRODUCTION

1.1 Subject of work

The main objective of this thesis is to research and explore the current trends and developments in organizational design within the context of the digital era (1990s/2000s to today). In the beginning, we will take a look at the conventional organizational design before the offset of the digital age. Here, the early stages of digitalization will be the main focus, as well as its impact on organizational design, and how well and how fast businesses adapted to the change as opposed to those ones that didn't. In 2023 we face a stage of digitalisation and technology which is rampant, important and engrained in the period of the early 2010s until today. We will take a look at Industrial Revolution 4.0, how businesses use and implement the digital aspects to shape and improve the organizational design in order to be more efficient, effective and profitable. The effects of digitalisation and technology on the organizational design of modern businesses will be utilized, as well as the impact these methods and changes have on businesses' profitability and effectiveness. Furthermore, a case study will be presented on one of the most popular digitized companies, McDonalds. Finally, we will evaluate the current trends in the digital world that are evolving, where they might take us in the future, and how they influence the constant development of businesses.

1.2 Methods Used and Data Sources

The information and the data used throughout this paper has been retrieved from credible secondary research sources such as online books and official articles, theory and general information published on official websites, educational videos, business and economics independent research, US university and college economy textbooks, literature reviews, harvard business reviews, publications, conference papers, journals, surveys, business case studies, podcasts, interviews and blog posts.

1.3 Paper Structure

The paper is structured chronologically, according to the actual timeline of the development and advancement of technology and digitalization and its progression in businesses in terms of organizational design. First we will go through digitalization trends generally observed in the beginning of the digital age regarding organizational design. Secondly, we will talk about the effects of early digitalization on organizational design including the third industrial revolution. Additionally, the situation of the digital age regarding the post-covid period as well as the impact COVID-19 had on businesses. The third chapter of this paper focuses on the effects and impacts of modern digitalization and technology on organizational design and digital disruption in a kind of way, rearranging and delibaretly shaping the organizational design of businesses. In this period, various key technologies outstand and influence the way entities arrange and conduct their business. A case study will be presented and observed regarding the organizational design and the evolution of organizational design in McDonalds. Lastly, we will outline and describe the future development of organizational design and possible trends as well as the potential downsides digitalization may face. The paper ends with a conclusion summarizing aspects of the paper structure.

2. ORGANIZATIONAL DESIGN AND DIGITALIZATION

2.1 Organizational Design in General

With the constantly changing and evolving business environment, companies often face challenges and in order for them to prevail in the long-run, they must constantly and deliberately intervene in terms of continuously shaping their organizational design as a pillar to the way they conduct business. Organizational design is the administration and execution of an organization's strategic plan. (Van Vulpen, 2023). This being said, the organization's strategy dictates the optimal and suitable organizational design for a particular business.

In order for a company to function optimally, its team must have a vision, mission and goals. It is crucial and indisputable for an organization to observe their position and overall situation and therefore create the best strategic fit in order to maintain and further develop. Various aspects are changing rapidly and different challenges emerge on a daily basis that influence the market. Either digital disruption, technology reinvention, or even simply inflation influence every company's common practices. The organizational design also refers to the way a business organization achieves the right combination for integration and differentiation of the operations in response to the uncertainties it faces in its external surroundings. (Bhasin, 2020). Successful organizational design requires strong leadership which does not just advocate transformation but also proactively facilitates the change. In their effort to enhance the company, uninformed and inefficient executive leaders often bring about new issues without fixing the ones that already exist.

There are five key characteristics that impact organizational design: strategy, environment, technology, size & life cycle and culture. (Van Vulpen, 2023). A specific organizational structure sets the strategic direction of the business, often known as the sole purpose of the organization. By establishing an adequate and suitable organizational structure, it tries to provide a framework that is closely aligned with the company's goals and utilization of assets. Redesignment, realignment, transformation and constant improvement of the

organizational design within business organizations are necessary and inevitable. Efficient leaders frequently examine whether all their departments, activities and information are aligned in order to maintain sustainability with the end goal of further development.

It is important to be well aware of an organization's sole purpose as well as its possibilities. Designing an efficient and competitive organization may be rather difficult in order to attain. There are five main principles that simply define organizational design and provide a basis for its framework. Organizational change is close to the top of many companies' agendas. (Goold & Campbell, 2002). The five principles are specialization, coordination, knowledge & competence, control & commitment and innovation & adaptation. These principles may be used in re-designing, aligning or simply transformation of the business organization. In order to achieve a preferable organizational design, specialization encourages further development together with coordination, providing benefits in the long run in terms of design. Furthermore, responsibilities should be adequately divided in a way that provides competitive advantage for the organization as opposed to others. Maintaining involvement and exercising effective control are important principles that showcase an organization's accountability. Finally, the most important aspect of an organization is to be sufficiently flexible and adaptive in the times of innovation. An effective organization is a result of the successful use and implementation of the previously mentioned factors and principles that affect the organizational design within an entity.

Not all organizations are aware of the advantages and possible disadvantages which adjusting organizational design within their structure could bring, many companies fail in their attempt in improving effectiveness. Due to the ever-changing and uncertain economic current happening globally, business management strategies have started to evolve quickly, extending the gap between those organizations that are responsive and agile as opposed to those that are more resistant to change.

2.2 Conventional Organizational Design pre-digitalization

The beginning of traditional organizational structure pre-digitalization dates in 1776, when Adam Smith proposed a form of organizational structure relying on the division of labor. Not so long after that, German sociologist Max Weber addressed the concept about rational organizations and constructed the notion and idea of charismatic leadership. The industrialisation – a rapid technology-driven transformation in the significance of business operations – started at the end of the eighteenth century. This multiphase process has been accompanied by far-reaching societal, economic and organizational changes. (Hernaus, Saša Sitar, Aleksić Mirić, 2021). During the Industrial Revolution of the 19th century, the majority of individuals worked together in a manager-subordinate relationship, a situation where workers strictly obey the rules of the manager and where the managers actions and authority were unquestioned.

The foundation and improvement of organizational studies has begun with the conception of scientific management. Components of scientific management include particular sets of instructions which lead organizations toward increased efficiency, overall effectiveness and performance. During the 1900s, the field of organizational structure was strongly affected and influenced by various theories in the scope of development and structural advancement. Friedrich W. Taylor is perceived as the father of scientific management due to his numerous acknowledgements in the field of management processes. Not only did Taylor promote his scientific findings, he introduced principles which serve as a basis for management and can be addressed even today. In the same movement, other major upholders of scientific management, Frank and Lillian Gilberth, came up with crucial findings and acknowledgments which further improved scientific management in terms of organizational structure. During these times of scientific management development, the main aspects that were emphasized were increased productivity, effective job separation, methods of performing optimal job separation, selection of workers and cooperation. The integration of these components lead to a strong team with a clear vision of their obligations and roles. The second major step was definitely the human relations movement. The human relation movement took place in the period between 1930s and 1950s, when significant importance was given to cooperation and morale, generally spoken, human relations. All of

these findings and developments are being used as a basis and have been proven to be true and yet still applicable for today's way of setting up an organization.

Conventional organizational structures were characterized by hierarchical planning which was a great aspect of these types of designs as well as subordination which was present at all levels of organizing. It is inevitable that this type of organization could not be on the highest level of efficiency and that further improvements were essential in order to structure an organization. The organizational structure is indispensable and the best results are achieved when it is systemized, disorganization is the biggest enemy. (Šerifi & Dašić, 2012).

Modern organizational structures have the ability to easily adapt to changes in the environment, are usually innovative organizations and have beneficial model characteristics which are teamwork and existence of company culture. Conventional organizational structures are generally centralized; characterized by existing as a static organization, inexistence of a corporate culture and unwillingness to organizational changes, which can be seen in the following table.

Characteristics of the model	Traditional (classical) model	Contemporary model
Organization	Centralization and concentration	Decentralization
Shaping	Deep organizational structure	Shallow organizational structure
Range of control	A narrow range of control	A wide range of control
Adaptation	Rigid (hard) structure	Flexible structure
Task (conception)	Static organization	Innovative organization
Organizational structure	Bureaucratic (mechanistic) structure	Organic (adaptive) structure
Communication (authorization)	Authority of individual	Teamwork
Relationships	Disrespect of people	Respect of people
Processes	Management with people	Management of processes
Culture	Inexistance of a corporate culture	Existance of a corporate culture
Changes	Unwillingness to organizational changes	Readiness for organizational changes
Regulation	Federal structure	Confederation of enterprise
Management	Functional decentralization	Federal decentralization

Figure 1. Characteristics of essential differences of models of the traditional and contemporary organizations.

Source:
https://www.researchgate.net/publication/272227380_Characteristics_of_traditional_and_contemporary_models_of_organizational_structures

2.3 Digital Age Trends in Organizational Design

With the rapid acceleration in technology development, organizations are forced to adapt and redesign their structure in order to maintain efficient control; which has shown to be vital during the times of digital age trends. The digital revolution forced every organization to reinvent itself, or at least rethink how it goes about doing business. (Chamorro-Premuzic, 2021). Changes in the organizational structure design were happening intentionally, with the goal of keeping up with modern practices. The current drivers of technological advancement include various key technologies that influence the organizational structure such as; artificial intelligence, big data, blockchain, simulation, cloud computing and additive manufacturing which will be revisited and analyzed later in the work. Previous practices of conducting business were dealt with certainty, while modern practices forced people to accept the notion of uncertainty. Leading companies adjust and change their strategies and structure, thereby also their organizational design. (Galbraith, 2012).

When businesses decide to pursue a digital transformation plan without having a straightforward and understandable explanation, they tend to face more challenges. The essence of digital transformation is to become a data-driven organization, ensuring that key decisions, actions, and processes are strongly influenced by data-driven insights, rather than by human intuition. (Chamorro-Premuzic, 2021). To successfully undertake the process of digitally transforming your organization is not only to control how people behave but also the way how activities are undertaken. In the pursuit of becoming a data-centric organization, there are five essential elements that need to be executed, which could be seen from the graph below.

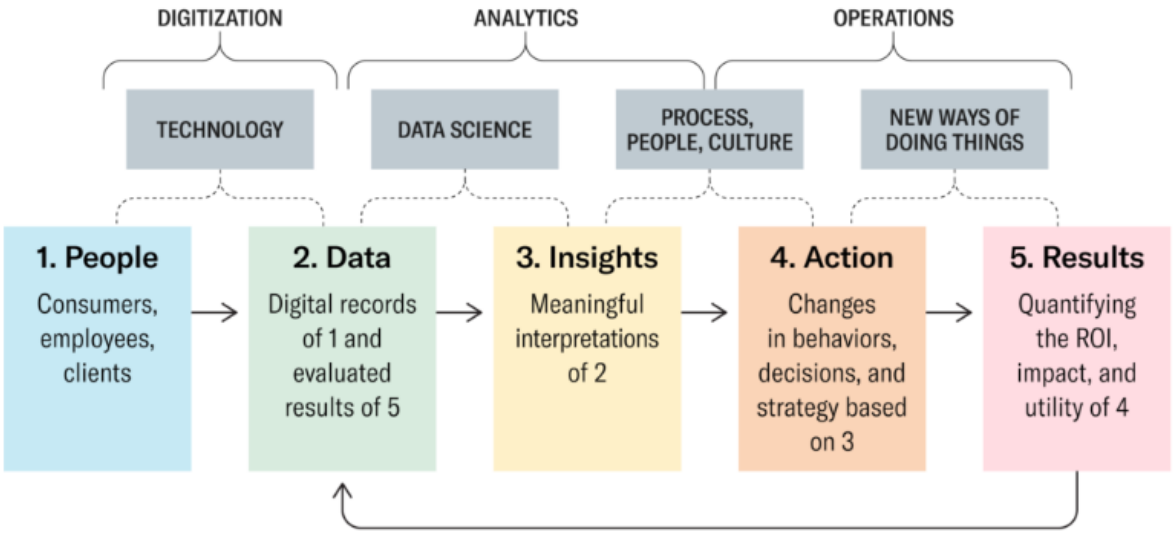

Figure 2. 5 essential components of a digital-transformation.
Source: https://hbr.org/2021/11/the-essential-components-of-digital-transformation

Many current organizational trends took shape in 2020, including the adoption of innovative, speed-enhancing models of operation and a great emphasis on company culture and principles. Organization design centered around models that facilitated fitter, flatter and faster operations and decision making, fast-tracked by the COVID-19 pandemic. (Baz-Sanchez & Weddle, 2021). In the years to come, businesses will continue to concentrate their efforts toward various trends that supported and shaped organizations amid challenging times. Some of the trends include adopting new organizational models for speed, focus on decision making and ensuring ongoing sustainability. In terms of improving the company culture, the following aspects become mandatory: creating stability through discipline, quick codification and clear roles, increasing the flow of information and transparency and grounding work in values and purpose.

In order to successfully undertake a digital transformation there are a few important aspects that should be considered. Not all organizations are placed within the same industry, nor are they the same in the number of employees and processes they conduct. Successful digital transformation is a difficult task even for companies within the digitally supported industry such as high technology, media and telecommunications. Comparatively, traditional companies tend to face more challenges when digitally adapting their organizational

structure. Digital transformation tends to be wide in scope. (Boutetiere, Montagner, Reich, 2018). The adoption of new digital technologies represents an inevitable and crucial task. Business organizations may choose to include more or less technologies during the digital transformation. It is found that organizations with successful digital transformations deploy more technologies than others do, which could be seen in the following exhibit.

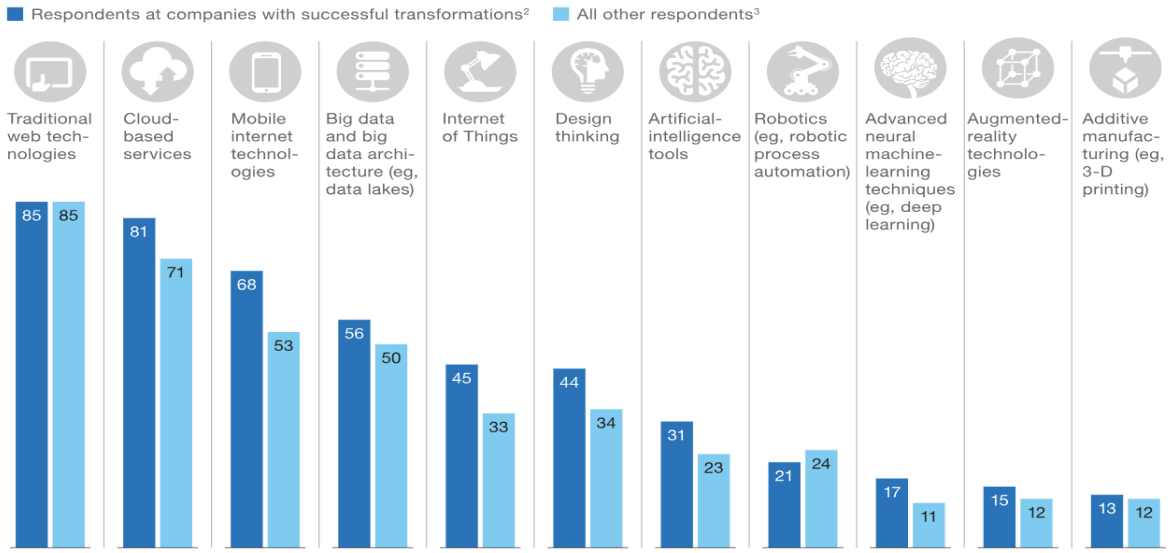

Figure 3. Digital technologies, tools and methods currently used by organizations, % of respondents

Source:

https://www.mckinsey.com/capabilities/people-and-organizational-performance/our-insights/unlocking-success-in-digital-transformations

Furthermore, the research shows that by incorporating a necessary set of factors improve the chances of digitally succeeding in transforming an organization. Building and investing in a strong workforce has shown to be an imperative factor. Having digitally savvy leaders and a workforce that is open to developing talent and skills are the best indicators to determine the rate of success in terms of digital modernization and adaptation. Empowering people to work in new ways and enabling efficient information flow are also important factors in the process. The hierarchy in the digital age is fading in favor of less hierarchical organizing and self-organizing models. (Hernaus et. al 2021). When key factors are in order, the respondents are up to three times more likely to report successful digital transformations.

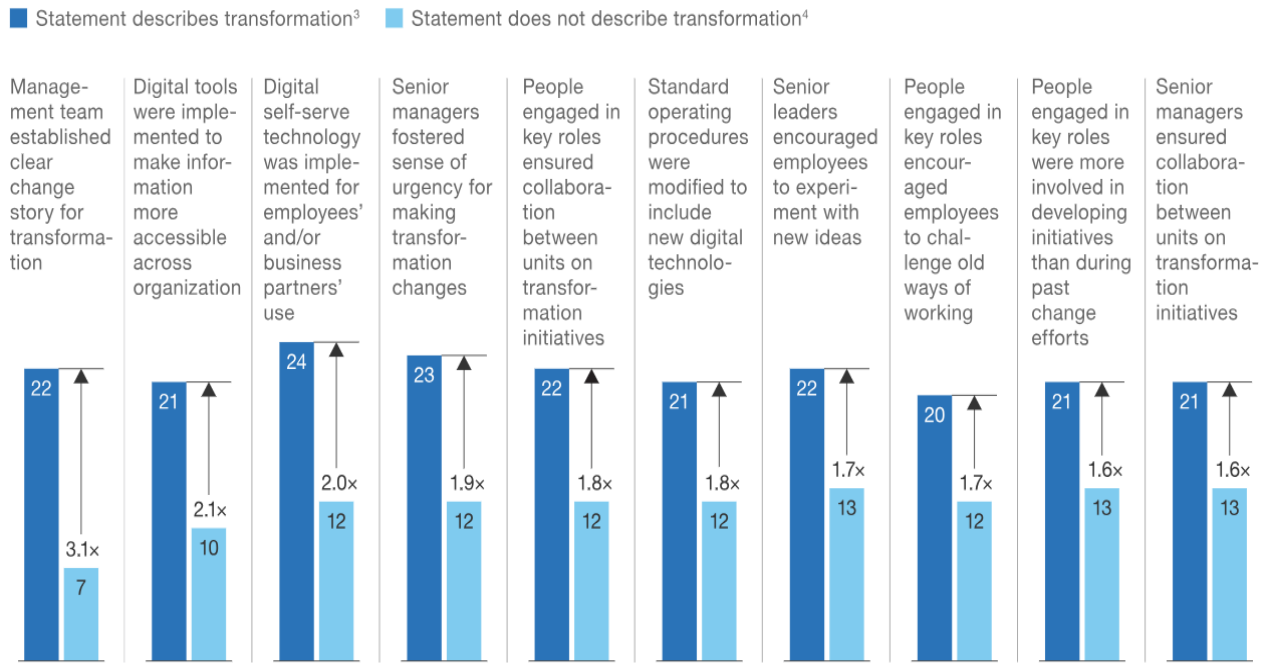

Figure 4. Success rate of digital transformations, by key factors, % of respondents.

Source:

https://www.mckinsey.com/capabilities/people-and-organizational-performance/our-insights/unlocking-success-in-digital-transformations

2.4 Short case-study example on a company

The case study chosen for this analysis is one conducted by William Kerr in which his innovative approach to advanced technology served as a building block in terms of digital transformation and further development of telecommunications giant Vodafone. Vodafone is a well known international communications company with its headquarters situated in London and has operations in approximately 30 countries worldwide. They have over 100,000 employees and are one of the top five mobile providers in the world.

Due to their expanding customer base this company is constantly searching for ways to incorporate advancements in order to improve their overall business operations and

performance. The reason Vodafone had to redesign their strategy is to keep up and compete with modern business organizations such as Facetime and Skype. By the Managing the Future of Work project that has been set up and constantly evaluating development possibilities that will reshape the workplace. Such practices were undertaken by Vodafone by incorporating big data, automation and artificial intelligence in order to increase performance productivity while guaranteeing new possibilities are generated. Vodafone encompassed their bot development process with their IT help desk for internal support and troubleshooting issues, subsequently leading to the use of TOBi, which as of January 2018 handled about 70 percent of online customer requests as a customer facing operation.

2.5 Failures and Issues in Organizational Design

Organizations agree upon identical priorities, as well as face identical challenges in executing them. The inability of an organization to achieve a certain level of success could be an indication of a more serious issue with the organizational structure. In his business review, Ron Carucci interviewed Henry, the CEO of a technology company in order to evaluate issues regarding inefficient organizational design. Henry was not able to separate activities and prioritize them adequately, which prevented the company from making success. Henry believed the solution to the issues that have occurred can be solved with activities such as weekly check-ins, protocols limiting excessive emails and online dashboards that display progress. He recognized their issue as one of responsibility and capability, as seen by their remedies, which wasn't the case. The “urgent crisis” preventing his team from making progress was arising due to a lack of effective coordination between two key parts of his business. (Carucci, 2019). After going through various aspects regarding the performance challenges this business faces, Ron came to the conclusion that the problems were actually driven by a poor governance system.

Four of the most common irritants I've seen arise as a result of ineffective organization design are: competing priorities, unwanted turnover, inaccessible bosses, and cross-functional rivalry. (Carucci, 2019). In a complex organizational design, natural conflicts

become apparent in terms of priorities and resources. The effective solution to resolve competing priorities is to include a customer segment with the purpose of governing operational tradeoffs. Sometimes, poor role designs may be the reason for inefficient organizational design. The organization needed to realize that quality roles are designed around desired outcomes, and not around people. (Carucci, 2019). In a situation where companies assign roles around people, they are involuntarily defining their value. Furthermore, misaligned metrics and incentives within companies result in unhealthy competition. Team building and other similar practices have the power to shorten the gap among employees and therefore lead the company toward shared values and goals.

Poor leadership decisions made by management result in detrimental project failures. Project managers have to precisely evaluate the campaigns they are launching and be adequately prepared to troubleshoot potential issues. A number of high profile projects undertaken by famous corporations and businesses lead to the discovery of how to act and cope with the given issues in specific situations.

An example is Sony, with its failed marketing supported by poor decision making. During the modern times with the rise of digital technologies, Sony did not change its business strategy and kept producing cassette tapes. To stop your idea from hitting the ash pile of failed projects, remember to keep analyzing, and evaluating your products. That way, they can maintain their velocity and continue to benefit your bottom line. (Adobe Communications Team, 2018).

Another example of poor decision making led to a project failure regarding Coca-Cola's downfall of incorrectly assessing customer motivations. The inability to realize their traditional version was more appealing to their customers than coke, a new recipe that they launched, resulted in a failure costing the company $4 million in development and a loss of $30 million in back stock. Customer input is imperative in development and for your project to be successful, you need to ensure you have a way to gather comprehensive customer insight that gives accurate and realistic information. (Adobe Communications Team, 2018).

3. EFFECTS OF EARLY DIGITALIZATION ON ORGANIZATIONAL DESIGN

3.1 Early Digitalization and its effects on Organizational Design - Early WWW tech in the midst of the Digital Revolution (The Third Industrial Revolution)

On the 6th of August 1991, the World Wide Web became publicly available. (Bryant, 2011). The creation's leader was Tim-Berners Lee and by realizing his project he was able to carry through and reshape technology and essentially advance technology and therefore shape the world we know today. Tim-Berners Lee suggested “a large hypertext database with typed links”, in order to share information with physicists all around the world. In 1991 even though the World Wide Web was accessible to the public, commercial use was available only to governments and universities. The first commercial browser was developed and launched for the public in 1993 and from that day on the use of the internet has been exponentially increasing to the extent that it is impossible to picture today's world without it. It has changed the way we communicate and has been a key factor in the way the Internet has transformed the global economy and societies around the world. (Bryant, 2011). A Network of static HTML documents has evolved into a dynamic and developing information system that is changing, due to the use of a wide range of technologies, such as streaming media and web sites. The Web has definitely changed the way people communicate and has set the direction for global economies and societies around the world.

Business organizations have to impose their traditional ways and pursue action for the purpose of successfully becoming fully digitalized. What being a modern and innovative business organization entails is using tools and methods to meet consumers’ needs. Competition is fierce, companies with different characteristics face two varying paths in the process of evolving into a fully digital company. The first involves a revolution – a direct leap into the desired level of digitization. The second consists of evolution in which they pass through each stage of digitization step by step. (McKinsey & Company). A traditionally structured company enables the revolutionary approach meaning that they have a structural

gateway to successfully attain the desired level of digitalization in comparison to classical organizations which identify five typical stages during their process of evolution.

Business organizations face ongoing uncertainty and at first are unable to fully commit and contribute to their digitization. More efforts are required in incorporating digital practices by organizational units. In the following stage the company establishes digital capabilities and employs artificial intelligence or advanced analytics together with individual functions such as Chief Digital Officers cooperating alongside the top management in order to further push the agenda. As the technological advancements are strengthening, the incorporation of additional functions are required; organizational units become more harmonized and the business organization is becoming more technologically advanced. At the fourth stage of the digital evolution, businesses tend to take hold of the most recent methods and practices in order to become a fully integrated digital organization. In the end, a fully digitalized organization adapts the application of artificial intelligence, the Internet of Things and many other automated processes - which in turn characterizes them as modern and ever-evolving. The following exhibit provides visual insight to the aforementioned five typical stages of the digital evolution process.

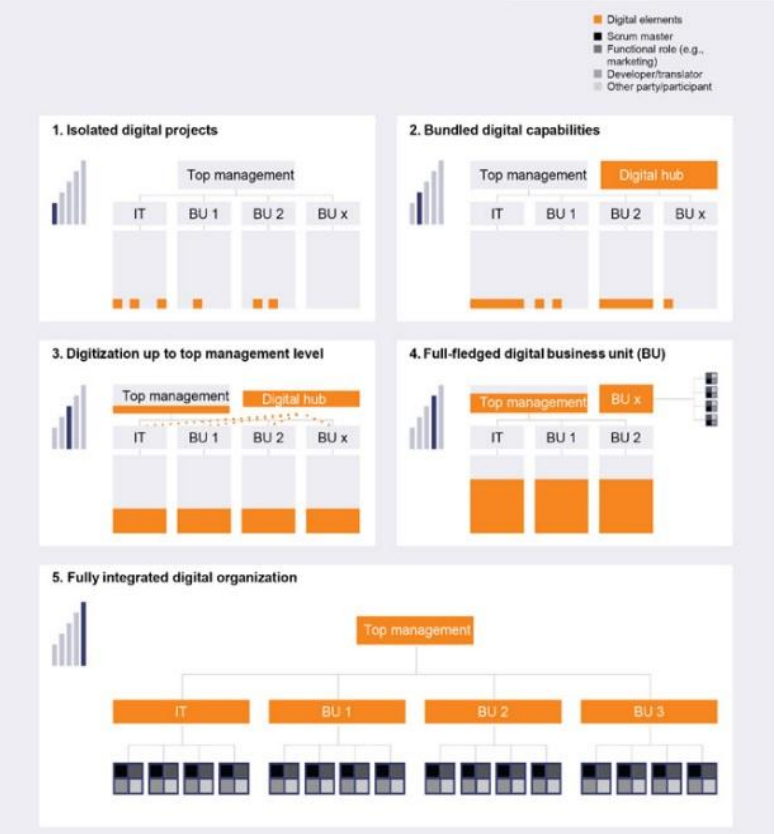

Figure 5. Organizational evolution from a classical business organization to a digital player

Source:

https://www.mckinsey.com/~/media/McKinsey/Industries/Retail/Our%20Insights/Digital%20revolution%20a%20question%20of%20organization/Digital%20revolution%20%20a%20question%20of%20organization.ashx

Achieving the highest stage of the digital evolution process and therefore being a fully integrated digital organization requires modern methods such as the understanding of agile techniques, prototype development, coding and design thinking. A new style of management took hold that was based on coaching and collaboration rather than command and control. (McKinsey & Company). The use of these types of prerequisites definitely create and enable a more open and friendly work environment, resulting in employees to be more motivated and add on to the overall efficiency of the business organization. After all, the ultimate goals of any digital transformation – and those involved in them – are long-term market survival and continued profitable growth. (McKinsey & Company). There is a substantial difference between digital and nondigital companies in terms of digital maturity and financial performance. Increased growth rates and earnings arise from triggering the

process of digital evolution, which could be seen from the calculated indications in the following exhibit.

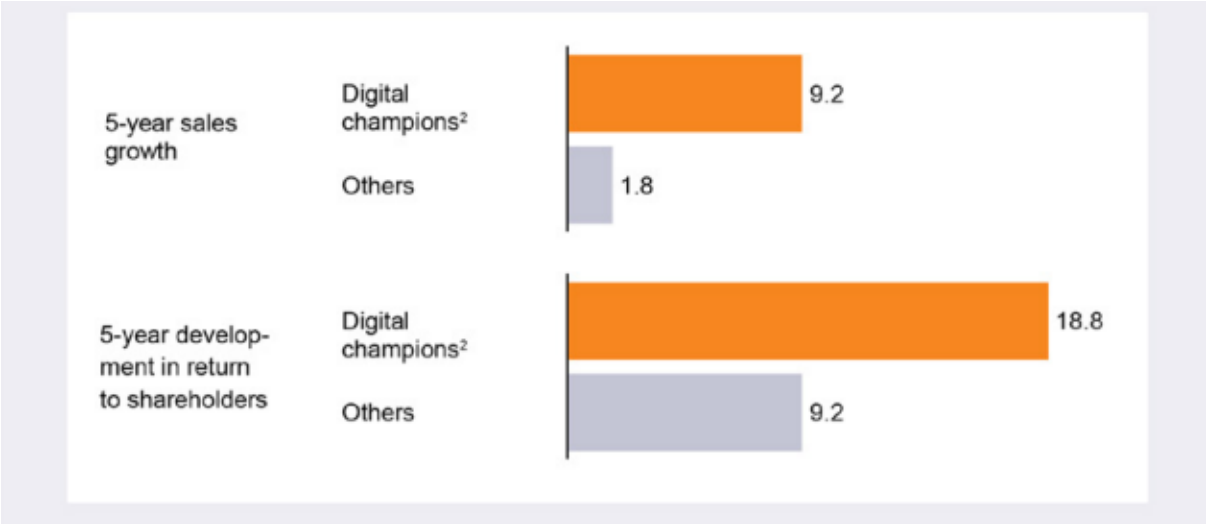

Figure 6. Correlation between companies digital maturity and financial performance

Source:
https://www.mckinsey.com/~/media/McKinsey/Industries/Retail/Our%20Insights/Digital%20revolution%20a%20question%20of%20organization/Digital%20revolution%20%20a%20question%20of%20organization.ashx

3.2 Transition period to the modern post-covid digital age

Organizations operate in fluid environments that persistently threaten their going concern and ability to compete, hence the need to now and again align their various organizational elements including structure. (Anderson, 2017). During times of challenges and uncertainty, business organizations tend to align their overall performance and efficiency by the way of refabricating and strengthening the organization design and organization development. Organization development places emphasis on the workforce and business requirements of an organization, whereas organization design focuses on the structural components, procedures, and regulations of the organization. To conclude, both of these aspects are related owing to the fact that they compliment each other.

The main foundation in order to be consistent and achieve growth alongside modern digitalization is having an adequate human resource team. For example during the 1960s the importance of monitoring external environment changes led to a paradigm shift towards acknowledgement of the importance of organizational culture and people. (Chivaka, 2018). This was the case in the beginning of organizational development; efficiency within the organization was, and remains the main goal and objective today. With the rise of numerous modern theories and cognitions, business organizations' top management recognized the importance of employee motivation and behavior. Once in possession of the proper and adequate human resource team, the company can further grow. This essential aspect is a profound characteristic of a fully integrated and modern digital business organization allowing employees' growth on an individual level, which positively contributes to the overall organizational effectiveness, design and development.

3.3 Impact of COVID on Organizational Design

During the coronavirus pandemic, organizations had to change and adapt the way they conduct business according to the disruptions arising. Many businesses would have failed, and many have due to their unreadiness and poor realization of what the pandemic brings. In private, as well as public organizations, we have seen changing organizational forms, a growing amount of importance placed on social networks, and many different experiments with flat organizations. (Burton, Reimer Larsen, Døjbak Håkonsson, Obel, 2020). As a consequence of multifaceted business landscapes, effective organizations thrive to be more adaptive and therefore respond adequately. The coronavirus pandemic has definitely influenced organizational approaches and practices in various ways, gradually shifting from a traditional approach, to a substantially more contemporary approach.

The consequences of the pandemic on organizational design have resulted in many crucial changes. To simplify and understand its outcomes, we split them into two subdivisions; short and long term consequences. It is relatively insignificant whether short term or long term

coronavirus pandemic consequences are stated, they are certain to leave permanent marks on the organizational designs of businesses. First, much on-site work was transformed to work mediated by tools like Zoom and in general electronic platforms substituted for direct coordination under conditions of co-presence in the coordination of work efforts. Second, this seems to have been accompanied by a higher level of real delegation as companies were compelled to transfer decision competence to local managers. (Foss, 2020). At the very beginning of the pandemic, business organizations had to react fast when adapting to a sudden change of this magnitude. Business organizations that failed to comply have undoubtedly been left behind. With the rise of various theories regarding organizations, many modifications have been implemented. These changes accompany the adjustments in reward systems and a higher degree of standardization as companies try to preserve control. With the coronavirus pandemic, new ways of conducting business have arisen such as the use and spread of remote work with regards to labor immobility.

Some crucial consequences of the coronavirus pandemic are more intensive use of remote work, smaller teams and more delegacy. Precautionary measures that were enforced in the beginning of the outbreak of the coronavirus involved a safety distance of two meters which shifted the social and workplace environment. This means employees will work from home remotely in a way that enables them to work with more incentive. Organizational tendencies have shifted regarding task evaluation and decision making. In challenging times, additional efforts are required for the means of increasing productivity which results in improved work efficiency and shaping company culture. During times of uncertainty, the departments and managers amongst the organization work together in a more cohesive manner, resulting in a higher degree of correlation.

Not only did business organizations face the need to evolve, the utilization of new methods and practices are guidelines and key for future development. They had to increase the speed of decision making, while improving productivity, using technology and data in new ways, and accelerating the scope and scale of innovation. And it worked. (De Smet, Pacthod, Relyea, Sternfels, 2020). Companies proved to be more efficient by redeploying talent, launching new business models, developing new products and shifting operations which all resulted in improved productivity. All of these characteristics point to the significance of

speed in development and adaption. Although this model is achievable, there may be barriers for some business organizations to overcome in order to attain and further develop sustainable speed. The following exhibit shows nine practices businesses should enforce by the means of becoming an effective organization during turbulent times.

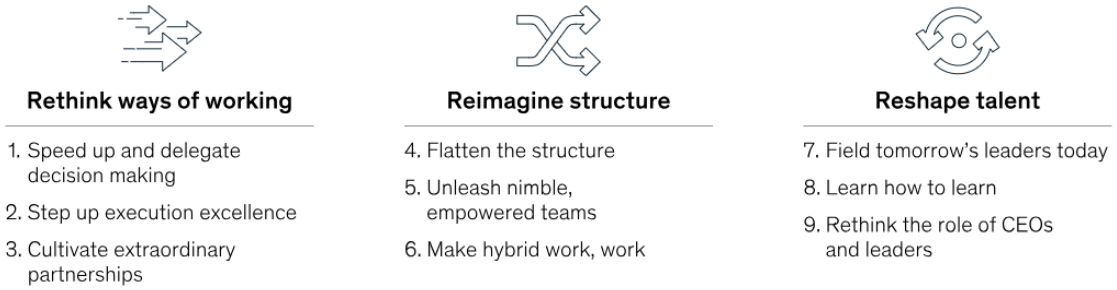

Figure 7. Nine actions to unleash sustainable speed

Source:

https://www.mckinsey.com/capabilities/people-and-organizational-performance/our-insights/ready-set-go-reinventing-the-organization-for-speed-in-the-post-covid-19-era

4. EFFECTS OF MODERN DIGITALIZATION ON ORGANIZATIONAL DESIGN

4.1 The Modern Digitalization & its effects on Organizational Design

In this section I will be discussing modern digitalization and its effects on organizational design. Across many industries, a rising tide of volatility, uncertainty and business complexity is roiling markets and changing the nature of competition. (Bennet, Lemoine, 2014). VUCA is an acronym which refers to volatility, uncertainty, complexity and ambiguity. During the last decade, technology generally soared which definitely and completely influences and transitioned the way companies operate and use various practices and models to ensure productivity and efficiency.. These are all words to defy the challenging and changing environment. Business organizations strive to optimize and enhance overall business performance and efficiency by directing efforts in strategic planning and leadership.

Digitalization is necessary primarily in order to optimize business with the help of software and IT solutions that will help to make it simpler, more economical and of higher quality in the context of providing services to customers and meeting their needs. (Volianska-Savchuk, Koshonko, Horbatiuk, Hlushko, 2023). By the help of digitalization, business organizations tend to have an easier path toward switching from a traditional company to a technological one. Due to the fact that there has been a robust development of information technologies which required(allowed) organizations to allocate their data online through various elements such as softwares and mobile applications. Digitalization is not only the use of digital technologies, but also primarily a change in thinking, management style, incentive system and adoption of new business models. (Volianska-Savchuk et. al 2023).

While committed to digitizing a business organization, not only the organization's organizational design changes entirely, aspects that are under effect are also the businesses management models and methods and centers of responsibility. In the period of modern digitalization, business organizations automaze HR functions and therefore increase the

overall performance and efficiency of the HR department as a whole which in the end results in the fact that the organization is digitally evolving and becoming prosperous. A substantial change and improvement is recorded in terms of overall task division among all employees, departments and managers. While specialization, skill-matching, parallelism and accountability are all well recognized criteria for task division, in each of the new forms of organizing we have discussed, the fact that individuals self-select into tasks suggests another rationale for preferring certain task division over others - transparency. (Puranam, Alexy, Reitzig, 2014).

Transparent task allocation contributes to the possibility that potential contributors will decide to join based on their individual talents, motivations and competencies which diminishes the possibility of free-riding. The virtualization of the internal space allows new candidates to instantly get an idea of the specifics of the organization and performance of work tasks within the company, to understand whether they share the vision, values and corporate culture, to facilitate the onboarding and adaptation processes, while at the same time providing recruiters with information about their behavior, personal characteristics and peculiarities. (Volianska-Savchuk et. al 2023). Modern business organizations improve HR management, namely there is a reinforced interest in personnel and employee training, motivation, recruitment, needs, evaluation, planning etc. Modern technologies enable business organizations to new, better and faster ways of conducting business, changing the organizational design and becoming more sustainable.

4.2 Industrial Revolution 4.0

Following the third industrial revolution which started to take place in the mid 20 century and during this period there were substantial changes and developments made, we come to a period where further enhancements were made denoting a new period, the fourth industrial revolution. During the third industrial revolution, developments in technology considered the use of computers, advanced telecommunications and data analysis to manufacturing processes. In this period, industries initiated the use of programmable logic

controllers (PLC) in order to computerize data and information. Steam propelled the original Industrial Revolution; electricity powered the second; preliminary automation and machinery engineered the third; and cyber physical systems—or intelligent computers—are shaping the Fourth industrial revolution. (McKinsey & Company, 2022). The fourth industrial revolution, also referred to as industry 4.0 or 4IR, specifies the use of increased automation, more engaged use of smart machines and by that being said, overall more efficient and productive organizations.

Technologies that are managed and put to use in the fourth industrial revolution are: Internet of Things (IoT), cloud computing, AI and machine learning, edge computing, cyber security and digital twin. In other words the period of the fourth industrial revolution is characterized by improvements in disruptive technologies regarding the connectivity of data and computational power, analytics and intelligence, human machine interaction and advanced engineering. Internet of Things (IoT) is a key element of manufacturing business organizations managed in the fourth industrial revolution. This aspect of technology enables enhancement in overall performance and efficiency for the company applying it. Instruments and machines employed in manufacturing processes are equipped with devices that allow them to connect with other devices which means greater connectivity and data connection and analysis. Cloud computing is definitely a fundamental principle used during this period of technological advancements which absolutely support businesses, especially small and medium sized manufacturers. This technology reduces cost for businesses as large amounts of data can be stored and evaluated in no time. The overall manufacturing aspects and activities are also positively affected by the use of cloud computing such as the supply chain, production, sales, distribution and service. With the more intense use of artificial intelligence, business operations simply flow more smoothly. By the use of data collected, artificial intelligence and machine learning support and enhance production processes in many ways, especially in predictability which definitely assists the business organizations field of logistics.

To thrive in the Fourth Industrial Revolution, companies must ensure that their workers are properly equipped through upskilling and reskilling and then hire new people when necessary. Upskilling means that employees learn new skills to help them in their current

positions as the skills they need evolve. Reskilling is the real challenge: workers are retrained with new skills that will enable them to fill different positions within their companies. (McKinsey & Company, 2022). This aspect of a modern business organization is comprehensively necessary and important in a business environment that is constantly developing in shifting. Highly skilled and competent employees and personnel are a crucial and important building block toward constructing a highly efficient, modern and prosperous business organization in the period of the fourth industrial revolution. A successful digital transformation in manufacturing is perceived to flow progressively when successfully building and improving workforce capabilities and shifting mindsets, this is a positive aspect of a modern business organization taking into consideration the uncertainty the future holds.

4.3 Key technologies – Artificial Intelligence, Big Data, Blockchain, Simulation, The Cloud, Additive Manufacturing

During the digital age there were many various technologies which evolved and influenced organizational design. In the last decade, substantial shocks have happened which proved to strengthen the innovative concepts of the science of organizational design. In this part I will distinguish the key technologies which characterize the modern period of digitalization and analyze the influence they have on organizational design of business organizations. The key components that characterize modern business organizations of this period are the following modern technologies: artificial intelligence, big data, blockchain, simulation, the cloud and additive manufacturing.

Additive manufacturing (AM) falls under a modern manufacturing technology that had a positive influence in shaping the manufacturing industry and increasing performance efficiency. This modern digital technology involves rapid prototyping three-dimensional products and enables business organizations to mass produce products with various shapes and different materials in a more efficient manner. Additive manufacturing is a technological innovation supported by the internet and specific software. It has its origin in the 1980s,

where it was developed to assist rapid prototyping and cut prototyping time costs by a factor of ten. (Sostak & Kurz, 2020). During the following period, the use and development of additive manufacturing grew exponentially to that point that products can be printed and designed with any material and it is a key process in every business organization. The following figure shows various additive manufacturing printing processes.

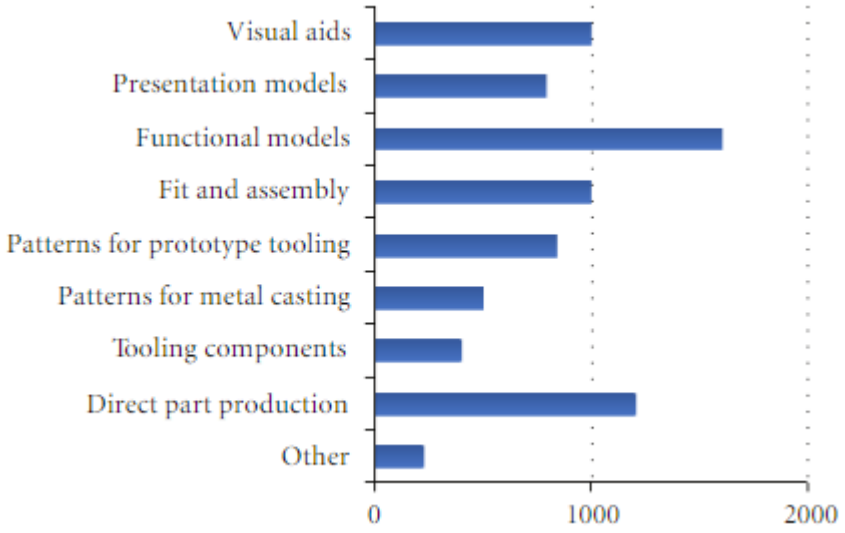

Figure 8. Different usage for additive manufacturing processes

Source:
https://www.researchgate.net/publication/246722237_KV_Wong_AHernandez_A_Review_of_Additive_Manufacturing_ISRN_Mechanical_Engineering_Vol_2012_2012_Article_ID_208760_10_pages

Another key technology which can be found in every business organization, especially the manufacturing ones, is cloud computing which is a database system that involves dynamic resource growth and application. Cloud computing offers three types of services: (1) Infrastructure as a Service (IaaS), such as cloud-based storage services available on demand (e.g., Amazon Elastic Computing Cloud) (2) Platform as a Service (PaaS), such as operating system supports and software development frameworks (e.g., Google AppEngine), and (3) Software as a Service (SaaS), such as storage processing and network resources allowing consumers to control applications (e.g., Joyent and Salesforce CRM). (Akter, Michael, Rajib Uddin, McCarthy, Rahman 2020). This type of technology serves as a foundation to business

organizations in the modern digitalization period, allowing them to maintain and further increase efficiency of the system as a whole by improving operations.

One of the main drivers of digital transformation is definitely artificial intelligence which considerably added to the advent of higher computer processing power. Over the years computers have been increasingly able to perform high level tasks which are comparable to humans, like solving mathematical problems, driving vehicles, understanding languages, and conducting commonsense reasoning. (Akter et. al 2020). Even though artificial intelligence capabilities are directly connected to the data obtained and contained within the database, it is believed that artificial intelligence guides business organizations towards further development.

Big data or advanced analytics is a modern practice in which corporate data applies various statistical and mathematical techniques in order to evaluate and enhance overall business operations and procedures. The information generated can be used by business organizations to predict their opportunities and shape their culture. In manufacturing, operations managers can use advanced analytics to take a deep dive into historical process data, identify patterns and relationships among discrete process steps and inputs, and then optimize the factors that prove to have the greatest effect on yield. They are taking previously isolated data sets, aggregating them, and analyzing them to reveal important insights. (Auschitzky, Hammer, Rajagopaul 2014). The following figure identifies the major analytical tools used as a basis in the determination of manufacturing processes.

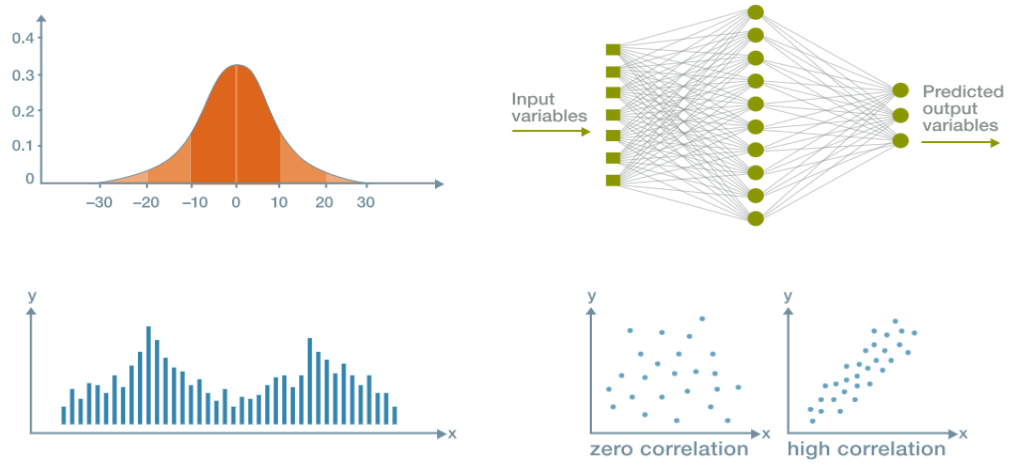

Figure 9. Advanced analytics that support the decoding of complex manufacturing processes

Source:
https://www.mckinsey.com/capabilities/operations/our-insights/how-big-data-can-improve-manufacturing

Blockchain is considered to be another key technology within the context of modern digitalization. Blockchain is an independent, unhackable and open source database whose technology is recognized by three characteristics regarding the system and transactions: persistence, anonymity, and auditability. This open-source platform allows anyone to change the underlying code providing the opportunity for all participants to see what is actually happening. In other words, it is a true peer-to-peer (P2P) system which does not require intermediaries to authenticate or settle transactions. (Akter et. al 2020). Blockchain is found to be a crucial component of business organizations in terms of transactions.

Simulation is a general term which is used in various fields of science although it has a similar meaning. This modern digital practice refers to the likelihood of a specific situation happening, given the data and information collected and observed. By simulating different models, it is possible to compare these without actually implementing them which can save time as well as money. (Sostak & Kurz 2020). With the innovations achieved in terms of artificial intelligence, data and software development, simulation as a digital technology serves as an additional practice undertaken by business organizations with the idea of predicting outcomes.

4.4 Effects on Organizational Design and the outcomes of the changes

The use and incorporation of modern key technologies into business practices and portfolio enabled remarkable growth and development and positively influenced the organizational design. It is arguable whether the use and incorporation of some technologies always benefit the company, some executives believe differently. Even though these technologies

are not yet discovered and investigated to their full potential, they are an essential to integrate within business organizations which enables their further development. Although the four technologies have individualized benefits, more business value could be derived from harnessing their interconnectivity to accelerate business growth and productivity. Also, artificial intelligence, blockchain, the cloud and data analytics are technologies driving the development of transformative business models with new platforms that automate processes, match demand and supply, dynamically price and make real-time decisions. (Akter et. al 2020).

The successful implementation of additive manufacturing shifts the organizational design of a corporation to a more decentralized one meaning there are more production facilities which generally enable a business organization the possibility to decide where, what and how much to produce. On the other hand, business organizations face uncertainties in terms of decision making regarding the priority of activities and additional training in staff is required. A lot of learning is required to establish additive manufacturing successfully. Alongside the implementation of essential changes, the whole corporation has to learn how to integrate and use these changes. In addition to that, occurring problems are not easily solvable with the help of standard solutions. (Sostak & Kurz 2020). In order to reap all the benefits of digitally transforming your company, the efforts must be oriented toward improving efficiency of other properties within the business and their interconnection. Cloud computing lowers the total cost of IT and makes accessing IT capabilities simpler and more affordable. This leads to significant changes in the whole organization, especially in the decision making structure. (Sostak & Kurz 2020). The use of this digital technology enables business organizations to store and handle data in a more time and cost effective manner, as a result, leading the business organization toward enhancing the whole organizational infrastructure and communication. Since cloud computing is the backbone of digital transformation, it is critical to research the interconnectivity between cloud computing and the Internet of Things, AI, blockchain, data analytics, and crowdsourcing to develop an innovative business model. Recent failures in cloud implementation have been caused by poor integration and lack of business value. (Akter et. al 2020). Future studies should examine the aspects that affect the company's value and strategy.

With the inclusion of big data into your business, it is inevitable there is going to be a shift in the corporate culture, which is an effect of every modern digital technology on the organizational design, the most substantial effects on organizational design of the business will happen in terms of decision making. There are various challenges that companies face during the integration of data analytics. With regard to technology, incompatible IT infrastructure and data architecture can impede the ability to store, analyze and derive effective information from data sets, which comprise structured, semi-structured and unstructured data. (Akter et. al 2020). One of the baseline aspects of successfully implementing data analytics is improving overall operations by optimizing existing process information in terms of centralizing data and hiring data analysts.

Furthermore, successful big data implementation considers the business organizations ability to differentiate and evaluate appropriate data. The critical first step for manufacturers that want to use advanced analytics to improve yield is to consider how much data the company has at its disposal. (Auschitzky et. al 2014). The incorporation of successful data analytics leads to a vast access to information which alters the businesses strategy and structure. This broad access to information results in a change of company structure which shifts from a vertical to a horizontal integration. Because of this, the complexity of the organization increases. (Sostak & Kurz 2020). In this situation, a shift in power occurs; with the combination of artificial intelligence and big data, the company achieves a new stage of development in terms of the automation process. The use of artificial intelligence may minimize the number of employees within departments leading the organization to reorganize in terms of effectively grouping employees in the matter of decision making. The impact of people's data on organizational design increases. It allows companies to group employees, for example by their skills or interests, and match them with appropriate tasks. This leads to a more effective and better team cross functionality, which increases the efficiency of the business overall. (Sostak & Kurz 2020).

The successful implementation of blockchain requires that it adds value to the organization and the supply chain management, this process of incorporation may sometimes impose difficulties to managers. The main challenge for the blockchain arguably is ensuring that a trusted system is not riddled with counterfeit blocks or counterfeit data permeating from

fake and illegitimate transactions or sources of transactions that is not only unchangeable on the public ledger, but is used to drive vital decisions that then further corrupt the digital ecosystem. Auditability becomes near impossible in an environment that bases everything on the digital with no way to recalibrate what is fact and not fiction. (Akter et. al 2020). In order to achieve consensus in an open network, it is crucial to assess and evaluate the various determinants of transactions such as transparency and security.

Despite the actual and recorded benefits the application of artificial intelligence brings, there are various concerns regarding different aspects of use. Although artificial intelligence, machine learning and deep learning are at the peak of their hype cycle, it is argued autonomous systems should not replace humans. Also, ensuring accuracy, replicability and reliability in AI algorithms is critically important. (Akter et. al 2020). It is inevitable that artificial intelligence has the ability and accuracy of high quality and diversified data collection, but it is also capable of making errors. Artificial intelligence lacks the ability of rational decision making in some fields such as medical diagnosis, financial planning, hiring. Furthermore, it is arguable whether self driving cars act reliable in every action they make. The best solution seems to be the collaboration of humans and machines, without the possibility of one separate party being practiced more than the other.

As with all modern digital technologies, simulation affects decision making of the business organization. Before they are put into place, new processes or structures can be tested using simulation. The increase of the use of simulation in decision making results in a power shift at management level. Decisions that affect processes, structures or designs of an organization are now based on simulation results instead of management experience or intuition. (Sostak & Kurz 2020). The organization becomes more transparent which results in better task allocation and efficiency, coupled with skilled employee engagement.

4.5 Effects on the workforce and the nature of work

The incorporation of modern technologies have generally proved to bring positive outcomes, but especially during the times of the covid pandemic. An essential change was the use and reliance on hybrid work such as remote conferences, online meetings or simply remote work. During the pandemic, many people have been surprised by how quickly and effectively technologies for videoconferencing and other forms of digital collaboration were adopted. For many, the results have been better than imagined. (Boland, De Smet, Palter, Sanghvi 2020). The epidemic has compelled organizations to adapt new working practices, ensuring safe, productive and enjoyable working circumstances for employees. During the lockdowns, organizations have necessarily adapted to go on collaborating and to ensure that the most important processes could be carried on remotely. Reimagining and reconstructing processes and practices will serve as a foundation of an improved operating model that leverages the best of both in-person and remote work. (Boland et. al 2020).

Scholars and practitioners alike recognize that we are now firmly enmeshed in the fourth industrial revolution (Industry 4.0), characterized by ongoing digital transformation and disruption, or in other words, “the intelligent networking of machines and processes for industry with the help of information and communication technology.” We are experiencing greater and greater levels of automation driven by artificial intelligence (AI), deep machine learning and advanced robotics. (Westover, 2022). The digital technological advancements and their incorporation into business processes has influenced business organizations, giving way to adaptive and people centered companies and changing the mechanical view of labor. Another significant developmental aspect of business innovation is the integration of user interface and user experience digital technologies. The use of these UI/UX digital technologies and automation make work easier for employees, including recent artificial intelligence breakthroughs such as automatic time tracking at jobs, less bureaucracy and papers, greater digital services, artificial intelligence assistance in everyday work, etc.

5. Case Study – Organizational Design and the evolution of Organizational Design in McDonald’s

In this part of the paper we arrived at the case study where I am going to evaluate the management structure, organizational structure and the organizational culture of a well known company McDonalds. McDonalds is a well known American fast food company actively providing service in over 100 countries around the world. In terms of revenue, it is one of the largest fast food chains in the world with around 38 thousand locations catering 68 million people daily.

In terms of the company's management structure, McDonalds employees consist of a chief executive officer (CEO) Chris Kempczinski at the top and below there are distinguishable departments such as marketing, sales, finance, restaurant and supply. The organizational structure of McDonald's combines divisional, hierarchical, and centralized elements. A divisional organizational structure is a type of organizational structure where the company is divided into individual and distinctive units and departments based on product or location and in the case of McDonalds, each location has responsibilities and objectives. This type of structure is the best solution to McDonalds, taking into consideration the company is operating in different locations around the world and the main objective is to balance global consistency. The organizational structure of McDonald's combines divisional, hierarchical, and centralized elements. The main purpose of large corporations implementing a combination of different types of organizational structures is to be consistent and add value and efficiency to the overall system, keeping in mind this corporation operates around the world and cannot stick to one solution. The company's organizational structure is centralized meaning the top of the hierarchy has the most of the decision-making power, with lower levels of management receiving less of it. Furthermore, the structure is characterized as a hierarchical structure referring to a structure where there is a chain of command. McDonalds mixed organizational structure enables the company to harmonize their business across all franchises and assure effectiveness and uniformity. The following graph depicts McDonald's organizational structure.

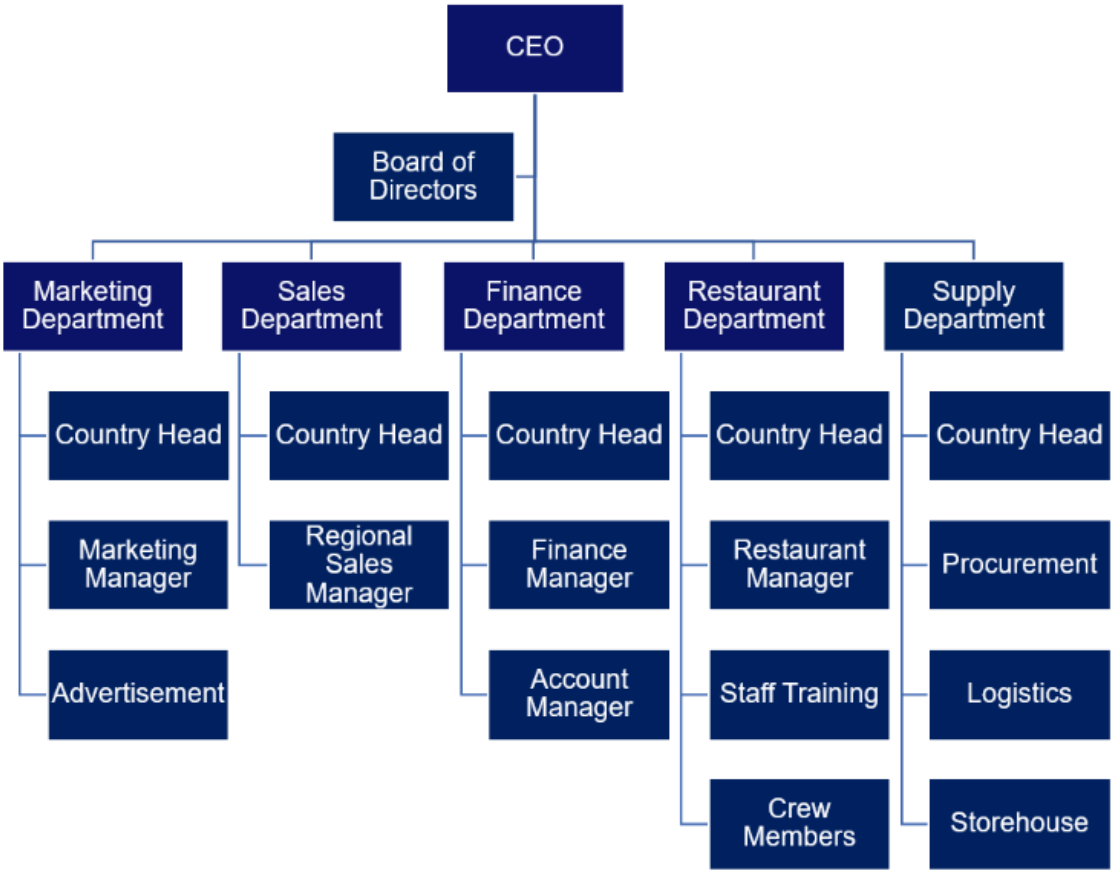

Figure 10. McDonald's organizational structure

Source:
https://www.studysmarter.co.uk/explanations/business-studies/business-case-studies/mcdonalds-organisational-structure/

There are a number of senior executives at McDonalds such as the chairman of the board, senior marketing manager, senior sales manager, chief financial officer, chief restaurant officer and chief operating officer. They are in charge of making choices, defining goals, handling the businesses finances, running the company's operations and monitoring functions and activities within the company.

Organizational culture is a set of common beliefs and behaviors that influence how people act and behave inside the organization. The organizational culture of McDonald's values people, learning, and diversity with a focus on maximizing productivity, operational effectiveness, and human resource development. McDonalds top priority are its employees, not only their duties and obligations toward work, but their needs and future development. The company enhances productivity, overall quality and business performance by offering various training and development programs. Another key aspect of the company's organizational culture is diversity. In terms of dealing with the diverse market, Mcdonalds puts a special emphasis on diversity in order to deliver the most favorable and pleasurable customer experience.

6. The Future of Organizational Design

6.1 Possible future trends and development

By the beginning of 2021, many expected for the world to go back to normal and people to start working as usual again. This was not the case due to the rise of more covid variants which continued to cause further uncertainty. The past decade many technological advances occurred which permanently shifted the way business is being conducted as well as the influence these digital technologies have on the organizational design of businesses. These advances would be great to incorporate into business organizations on a stand alone basis, which is not possible due to the volatility, disruption and uncertainty the past decade brang. We evidenced that different technological imperatives have systematically and purposefully revolutionized the industrial land- scape thus leading to stage-wise evolutionary organizational developments. (Hernaus et. al 2021). In terms of the situation in 2022, hybrid work will still be done remotely, many employees will get wage cuts due to increased inflation. However, technological advancements are believed to continue to take place owing to the fact that the way of conducting business is evolving.

There are numerous trends that are distinguished and liable criterions for supporting and further shaping the workplace in 2022 and therefore, decreasing volatility. In terms of defining issues, business organizations' primary objectives are clarifying fairness and equity. In 2022, executives will need to address how they are managing fairness and equity across the increasingly varied employee experience. In fact, this will be the number one priority for human resource executives next year. (Kropp & McRae 2022). The main point of discussion of the society are debates regarding fairness, equity and inclusion. The whole workplace and ways of conducting business extensively shifted leading employees and executives to behave differently, by changing their beliefs and applying new practices.

Due to the coronavirus pandemic, vaccination of the society is rather important in order to attain the pandemic and overcome it. The highest impact on the workforce, society and economy as a whole would have the action and process of a vaccine mandate, which is not a favorable solution to most of the people. Even though this action would bring resolution in

an expected short time manner, it will further disrupt the economy and market to a level that could not be determined. The majority of business organizations adopted testing processes on a regular scheduled basis. Even though this process was not simple to maintain, these types of efforts are essential in the sense of managing uncertainty.

In a hypercompetitive labor market that is already experiencing severe skills gaps, leaders don't have the luxury of just hiring new talent with evolving specialized technical competencies and capabilities; they need to develop effective strategies to reskill and upskill their people to meet both present and future organizational and market demands. (Westover, 2022). Another important aspect and trend that will shape the workplace in the future is the competition and war for knowledge worker talent, some companies willing to shorten the work week rather than increase the pay. Employers are offering favorable compensation increases in order to allure new talented employees. Keeping in mind that real wages have declined and inflation is existing and rising, this results in the compensation offer being worth less in terms of purchasing power for employees. Ultimately, we are likely to see a handful of organizations adopt 32-hour work weeks with the same compensation as a new way to compete for knowledge workers. (Kropp & McRae, 2022).

Employee turnover will continue to increase as hybrid and remote work become the norm for knowledge workers. (Kropp & McRae, 2022). Employees that expect flexibility and are not offered it, move to roles that offer a value proposition that fulfills and better suits them. The aspect of relationship between managers and employees has become the most important trend in the modern era. Human resource vendors have been creating products that replace an increasing number of repeatable managerial tasks, such as scheduling, approving expense reports, and monitoring direct reports completion of tasks. (Kropp, McRae, 2022). Furthermore, advancements in technology tend to replace various additional managerial tasks such as providing performance feedback and supporting employees. Due to the increased level and use of automation, business organizations will have to choose either to decrease the number of managers or change the idea and expectation of what being a manager really means. Our research shows that up to 65% of the tasks that a manager currently does has the potential to be automated by 2025. (Kropp & McRae, 2022).

In terms of shaping the working environment and achieving a sustainable and adaptive organizational design, business organizations respond to the internal and external environment. In order to stay relevant amid a rapidly changing world, leaders must rethink the how and why behind the designs of their organizations and the work they and their teams perform. (Westover, 2022). Another aspect that is considered to shape the working environment and employees are the instruments we use to work remotely, which will improve and become instruments that help measure and improve overall performance and efficiency. As a result of remote work, it has become more geographically dispersed indicating there is not much insight into the employees' doings. A Gartner survey in the fall of 2020 of nearly 3000 managers revealed that 64% of managers and executives believe in-office employees are higher performers than remote employees, and 76% believe in-office workers are more likely to be promoted. (Kropp & McRae, 2022). This gives us a clear indication that there are a few aspects managers should have in mind while rating their business operations and employee activities. New, emerging and modern digital technologies will support managers in the virtual environment in terms of monitoring and assessing the contributions that employees make.

In terms of defining a metric to better understand its employees, business organizations will acquire new employee well-being measures regarding employees' financial, mental and physical health. Many companies expanded the wellness support they provided to their employees in the wake of the pandemic. A Gartner 2020 survey of 52 human resource executives found that: 94% of companies made significant investments in their well-being programs. 85% increased support for mental health benefits. 50% increased support for physical well-being. 38% increased support for financial well-being. (Kropp & McRae, 2022).

Various issues and conflicts are arising and taking place in a modern organization owing to the fact that organizations expect an individual employee to be himself, act and believe distinguishably regardless of the differences and gaps these situations may make. This is considerably different than in traditional business organizations. In the idea of maintaining inclusiveness and keeping a productive working environment, a new role will have to be assigned. The shifting nature of organizations - how they relate to their employees,

communities, and their role in society - is creating the next, new major C-suite role that will emerge in 2022; the chief purpose officer. (Kropp & McRae, 2022).

6.2 Industrial Revolution 5.0

The fifth industrial revolution is believed to happen eventually although people and business organizations need to change and adapt in order to achieve it. Industry 5.0 is an industrial phase where humans will work together with machines. Globalization, inflation and other economic disruptions that impose challenges are kept the most sustainable and under control with the use and support of technology advancements. Industry 5.0 in a way, reflects the previous industrial revolution but with the top priority being human centric and the support of technology.

The main focus of industry 5.0 is being human-centric by promoting talents, diversity and empowerment, resilient in terms of being agile and adapting to new technologies and sustainable towards our planet. According to the European Union Industry 5.0 “provides a vision of industry that aims beyond efficiency and productivity as the sole goals, and reinforces the role and the contribution of industry to society.” and “It places the wellbeing of the worker at the center of the production process and uses new technologies to provide prosperity beyond jobs and growth while respecting the production limits of the planet.” (Kraaijenbrink, 2022) New digital technologies that are believed to support humans in the fifth industrial revolution are artificial intelligence, automation, machine learning, smart systems , big data, simulation, etc. The following graph shows the three major focus points of the fifth industrial revolution which will be further emphasized in the following part.

Figure 11. The three pillars of Industry 5.0

Source:
https://www.forbes.com/sites/jeroenkraaijenbrink/2022/05/24/what-is-industry-50-and-how-it-will-radically-change-your-business-strategy/?sh=1f753daa20bd

A human-centric strategy considers the humans, employees being at the center of focus. In many industries and countries, finding, serving, and keeping talent has become a much greater challenge than finding, serving, and keeping customers. (Kraaijenbrink, 2022). The idea of this strategy is to attain competitive advantage in a way that empowers and adds value to employees. This strategy indicates a change in terms of organizations serving people rather than people serving organizations.

Business organizations nowadays tend to increase their earnings and enhance their overall performance which could be really challenging during times of disruptions and global challenges. Therefore, businesses realize in order to be resilient they should have characteristics of radicality in terms of decision making and generally speaking. Being resilient considers reacting in a timely manner given disruption and ensuring stability. If we are to realize that resilience will truly become one of the three pillars of Industry 5.0, it means that strategy's primary focus will no longer be on growth, profit, and efficiency, but on creating organizations that are "antifragile," meaning that they are able to anticipate, react and learn timely and systematically from any crisis and thereby ensure stable and sustainable performance. (Kraaijenbrink, 2022).

When it comes to sustainability, business organizations tend to tackle this point in the fifth industrial revolution. Global warming and climate change affect the economy and humans. In the following revolution the idea for business organization is to pursue the idea of sustainability and work together toward changing the planet for the better, becoming a part of the solution rather than being a part of the problem. Rather than merely reducing a company's negative impact, truly sustainable companies focus on increasing their positive impact. (Kraaijenbrink, 2022).

In conclusion, the fifth industrial revolution reflects and complements the fourth industrial revolution. While the fourth industrial revolution relies on digital technologies, the fifth industrial revolution places the importance on people as workers and digital advancements in the sense of supporting rather than substituting them.

6.3 Challenges and downsides to Digitalization

Digitalization is a widespread and used term in today's digital economy. The main tendencies of business entities is to reap the benefits of digital technologies and successfully incorporate them within their portfolio. The use of digital technologies has increased due to the use and rapid spread of the internet. Today, global IP traffic is almost 150,000 GB per second compared to 100 GB per day three decades ago. (Muggah, Rohozinski, Goldin 2020).

Despite the numerous positive aspects the digital revolution has brang, digitalization is a rather complex process and takes time and effort to successfully implement. Not all digital transformations resulted in success. Globally, examples abound of ambitious digital transformation programs wiping out shareholder value and CEO reputations. A study by Everest Group suggests that almost 73% of enterprises failed to provide any business value whatsoever from their digital transformation initiatives. (Aggarwal, 2021). Many organizations and entities had challenges during the implementation of digital technologies within their business portfolio and activities. For instance, schools and universities had

limited time to successfully implement digital transformation during the coronavirus pandemic, public administrations also faced challenges during times of uncertainty.

Furthermore, success in the digital world considers being equally developed in all areas around the globe, which currently isn't the case. Richer countries in North America, Western Europe and East Asia house well over 90% of the world's data centers, while Latin American and African states are home to less than 2%. The US and China account for over 75% of cloud computing, 75% of all patents related to blockchain, and 50% of spending on IoT. (Muggah et. al 2020). These parallels impose challenges to consider and tackle in order to enable the digital evolution to further develop and seize the gap between countries.

Despite the many positive aspects artificial intelligence and automation bring to humans, their use, incorporation and further development threatens humans in a way that they can be replaced and not supported, if not adequately managed. The following image shows jobs at risk of automation around the world.

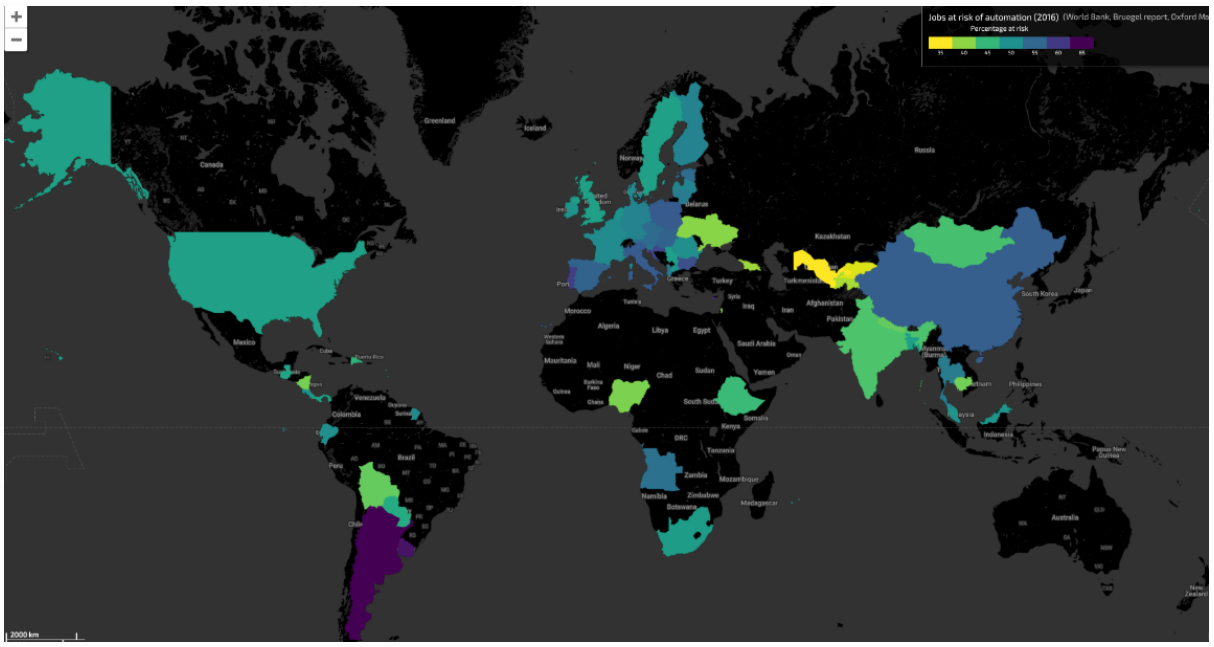

Figure 12. Jobs at risk of automation

Source: https://www.weforum.org/agenda/2020/09/dark-side-digitalization/

Digital technology has revolutionized almost every aspect of people's lives in recent decades. (Goodman, 2023). Despite the fact that digitalization transformed and positively affected modern life, there are negative consequences that arise and impose barriers during the process of active implementation. Challenges and downsides which the process of successful implementation of digitalization face are numerous, such as disadvantages in terms of: data security, crime and terrorism, complexity, privacy concerns, social disconnect, work overload, digital media manipulation, job insecurity, plagiarism and copyright, addiction, social alienation, etc. Furthermore, major challenges that impose obstacles directly to business organizations are the lack of effective change management, lack of modern processes preparedness, inability to rein in digital transformation ambitions and confusion between digital optimization and digital transformation.

7. Conclusion

The way business organizations react to external surroundings refers to the organizational design and the organization's strategy enables the optimal and suitable design. Strong leadership that actively facilitates the change as well as advocates it is necessary for effective organizational design. A corporation must have more than just a clear vision, mission, and objectives. It is crucial for a business organization to be aware of its purpose and possibilities. It is quite difficult to attain an efficient and competitive organization without being sufficiently flexible and adaptive in the times of innovation.

It has been established that all historical findings and developments regarding how to successfully set up an organization in terms of human relations, cooperation and morale are accurate and applicable, even for today's methods of doing business.

The pace of technological advancement is faster than anticipated; as a result, business organizations must either rethink their organizational structure to maintain effective control or modify it, failing to do so would result in them being left behind, particularly during the trends of the digital era. While incorporating digital technology within the business organization, companies face different aspects in terms of successfully implementing these digital advances. Additionally, embracing new digital technology is a necessary and urgent duty. Respondents are up to three times more likely to claim successful digital changes when certain conditions are met. A robust workforce, technologically aware leaders, information flow and enabling employees to work in novel ways are some important considerations.

Even while organizations agree on priorities, carrying them out can occasionally be difficult. Management's poor leadership choices lead to problems and project failures. In order to prevent project failures, project managers must carefully examine the campaigns they are deploying.

Digitalization is a widespread and used term in today's digital economy. The main tendencies of business entities is to reap the benefits of digital technologies and successfully incorporate them within their portfolio. The use of digital technologies has increased due to

the use and rapid spread of the internet. The internet has unquestionably revolutionized how people interact and has set directions for global economies and societies around the world. In order to have the ability to successfully digitalize, Business organizations have to expose their traditional ways and pursue actions.

The fourth industrial revolution, also referred to as industry 4.0 or 4IR, specifies the use of increased automation, more engaged use of smart machines and by that being said, overall more efficient and productive organizations. In other words the period of the fourth industrial revolution is characterized by improvements in disruptive technologies regarding the connectivity of data and computational power, analytics and intelligence, human machine interaction and advanced engineering.

During the last decade, technology generally soared which definitely and completely influences and transitioned the way companies operate and use various practices and models to ensure productivity and efficiency. Modern technologies enable business organizations to new, better and faster ways of conducting business, changing the organizational design and becoming more sustainable. The key components that characterize modern business organizations of this period are the following modern technologies: artificial intelligence, big data, blockchain, simulation, the cloud and additive manufacturing.

The use and incorporation of modern key technologies into business practices and portfolio enabled remarkable growth and development and positively influenced the organizational design. The use of these digital technologies enable business organizations to generally perform and execute operations in a more time and cost effective manner, as a result, leading the business organization toward enhancing the whole organizational efficiency. In order to reap all the benefits of digitally transforming your company, the efforts must be oriented toward improving efficiency of other properties within the business and their interconnection.

The fifth industrial revolution is believed to happen eventually although people and business organizations need to change and adapt in order to achieve it. Industry 5.0 is an industrial

phase where humans will work together with machines. The main focus of industry 5.0 is being human-centric by promoting talents, diversity and empowerment, resilient in terms of being agile and adapting to new technologies and sustainable towards our planet. To conclude, the fifth industrial revolution reflects and complements the fourth industrial revolution. While the fourth industrial revolution relies on digital technologies, the fifth industrial revolution places the importance on people as workers and digital advancements in the sense of supporting rather than substituting them.

Contrary to the numerous positive aspects the digital revolution has brang, digitalization is a rather complex process and takes time and effort to successfully implement. Many organizations and entities have challenges during the implementation of digital technologies within their business portfolio and activities. Furthermore, success in the digital world considers being equally developed in all areas around the globe, which currently isn't the case. These parallels impose challenges to consider and tackle in order to enable the digital evolution to further develop and seize the gap between countries.

Despite the many positive aspects artificial intelligence and automation bring to humans, their use, incorporation and further development threatens humans in a way that they can be replaced and not supported, if not adequately managed. The bottom line is to carefully embrace digitalisation and technology through planning and incremental advancement of organizational design. There will definitely be obstacles and challenges and a short-term loss of capital and man-hours for the changes, however long-term it will pay off.

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9. Figures table

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