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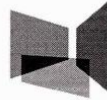
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Digital transformation in ŠKODA AUTO Company and its impact on HRM Bachelor Thesis

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ŠKODA AUTO Vysoká škola

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- Candidate: **Barbora Rosová**
- Study programme: Economics and Management
- Field of study: Business Administration and Human Resources Management
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- Thesis title: **Digital Transformation in ŠKODA AUTO company and its impact on HRM.**
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- Aim: Theoretical goal of the thesis is to provide an overview of the up-to-date knowledge and concepts related to the problem area of digital transformation of a society and organizations. Practical objective is to analyse a process of digital transformation in the Project Management Department in SKODA AUTO company and to propose recommendations focused on an improvement and enhancement of the digitalization.
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- Content areas:
1. Introduction – objectives and content of the thesis.
 2. Digital transformation of a society and organizations.
 3. Digitalization in the area of HRM.
 4. Digital transformation in ŠKODA AUTO company.
 5. Empirical research – analysis of a process of digital transformation in the Project Management Department in SKODA AUTO company.
 6. Summary of the research results and proposal of the recommendations focused on an improvement and enhancement of the digital transformation in an analyzed department.

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Recommended literature:

1. ARMSTRONG, M. – TAYLOR, S. *Armstrong's handbook of human resource management practice*. 13th ed. London: Kogan Page, 2014. ISBN 978-0-7494-6964-1.
2. BARTODZIEJ, C J. *The Concept Industry 4.0: An Empirical Analysis of Technologies*. Berlin: Springer Gabler, 2017. ISBN 978-3-658-16501-7.
3. BULTMANN, S. – GAYDOUL, R. *Horváth & Partners – Agile interaction of R&D and the procurement interface*. Munich: Horváth & Partners, 2020. 20 p.
4. DVOŘÁKOVÁ, Z. *Řízení lidských zdrojů*. Praha: C. H. Beck, 2012. 559 p. ISBN 978-80-7400-347-9.
5. PAVLICA, K. – MATOUŠKOVÁ, I. – KAISER, R. Developing managers for a digitalized industry – proposal of a methodological framework. In *11th International Conference of Education, Research and Innovation, ICERI 2018*. Sevilla, Spain: IATED Academy, 2018, p. 4525–4531. ISBN 978-84-09-05948-5.
6. PAVLICA, K. – MATOUŠKOVÁ, I. – KAISER, R. Metodika rozvoje manažerů pro digitalizovaný průmysl. *Socioekonomické a humanitní studie*. 2019. v. 9, no. 1, p. 19–44. ISSN 1804-6797. URL: <http://www.sehs.cz>
7. NOVÝ, I. – BEDRNOVÁ, E. – JAROŠOVÁ, E. *Manažerská psychologie a sociologie*. Praha: Management Press, 2015. ISBN 978-80-7261-239-0.

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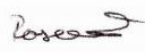
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List of abbreviations and symbols

AI	Artificial Intelligence
AL	Agile Leadership
BD	Big Data
CEO	Chief Executive Officer
DT	Digital Transformation
DESI	Digital Economy and Society Index
ICT	Information and Communication Technologies
IPMA	International Project Management Association
MK	Management level
OMK	Upper Management level
TMK	Top Management level
PM	Project Management
PMI	Project management Institute
SM	Social Media
SMEs	Small and Medium businesses
ŠA	ŠKODA AUTO a.s.
ŠAU	ŠKODA AUTO University
VASB	Virtual reality, Artificial intelligence, Social media and Big data

Introduction

Digitalization and digital transformation are terms, however, the practical meaning and especially its application keep busy a large part of our modern society.

Digital transformation puts new demands on various areas of society, organizations and their employees. These subjects are forced to face new challenges of this transformation process, from the automation of production processes, through the introduction of new communication and operating systems, to the changes in the labour market, or a complete change in the manager's mind-set. However, those who successfully adapt to these new conditions will be able to benefit and make use of new greater range of options, possibilities and seize new opportunities provided by the digital transformation. Failure to adapt to these changes of transformation, will not only limit the current market, but could even lead to complete downfall and obliteration.

Dr. Herbert Diess, the CEO of the VW Group, said, that without urgent reforms, VWG carmakers will face the same fate as Nokia in 2014. Nokia, once the biggest producer of mobile phones with a market share of more than 50% at the end of 2007, dropped to insignificance only 5 years later with a market share of below 5%.

At that time, Nokia was not able to adjust to the transformation that Apple brought through its Smartphone. In this case, the transformation was only taking place within one specific industry, but what will be the impact if the digital transformation is not affecting only one industry but even a much wider range of industries or even large parts of the society..?

To understand this impact, the first theoretical part of the thesis focuses on the effect of Digital transformation on society, organisations and on the individuals working in a higher management within these organisations. And reflects new demands and tries to explain the chances and benefits that the companies can implement for its profit.

The motivation for choosing this topic of the thesis was the way how ŠKODA AUTO, and especially the project management teams, are dealing with the impact of the digital transformation. The project management teams are responsible for the new

car development and focus on a time frame and a market within the horizon from 4 to 5 years from now. So, if not these project teams, should be the spearhead for dealing with the upcoming digital transformations and its impacts, who should then?

Following these objectives, the second; practical part of the thesis is devoted to a “digitalization status Quo” of Project Management environment within ŠKODA AUTO Company. Especially focused on what are the skills and knowledge that the managers and other employees in project management currently possess of. Based on the empirical research, these factors are further analysed with a focus on their relevance in relation to digital transformation. Consequently, this part also provides a list of current opportunities, tools and workshops that are currently provided by the company, in terms of improving, developing and deepening the digital skills in order to reach the strategic goals set by the company.

In a conclusion, the findings are summarized following the theoretical facts, knowledge of the digital transformation and practical data obtained from the empirical research. The last part of the thesis provides a brief recommendation in terms of deepening and improving the digital knowledge and skills of selected employees accordingly with the ŠKODA's/VW Group's plan.

1 Digital Transformation in Society and Organizations

The first chapter deals with the general impact of digitization and digital transformation on society and the organizations operating in such community. The first part of the chapter covers the literature review and the definition of the main terms and concepts, such as the terms digitalization, digital transformation and industry 4.0. Later, the basic paradigms deal with the relationship between digitization, the evolved digital technologies and the organizations affected by these influences. Supported by current studies, researches and statements of eminent contemporary scholars and professionals moving in the field, defining the importance of digital transformation in today's society.

The second part of this chapter is focusing on management and leadership, describing, among the others, the changes in these concepts caused by the process of digitalization and automation. Highlighting the aspects of the traditional leadership, applicable to today's disrupted world and providing the suitable proposals for the future. The topic management and leadership is divided into the two subtopics – manager in the digital transformation, explaining the traditional role of the manager, as same as his/her transformed version. The second subtopic is devoted to the project manager; his/her role and its possible changes affected by the digital transformation.

Table 1 Definition of terms

Term	Definition	Date
1 Digitization	<i>Digitization is at the beginning of the process. Stands for automation and digitization of business processes, based on the digitization of paper (removing paper-based processes), and removal of manual labour when it is not efficient anymore</i>	1950 – now
2 Digitalization	<i>Digitalization means using digital data to simplify the way we work. It is a process of using digitized information to make established ways of working simpler and more efficient.</i>	1950 – now
3 Digital Transformation	<i>Is about understanding the possibilities; the potential of new technology. It is changing the way business gets done and, in some cases, creating entirely new classes of business. Digitization and digital transformation are parts of the DT.</i>	2011 – now
4 Digital Revolution	<i>Part of the third industrial revolution. Represents the change from analogue and mechanical systems to digital ones.</i>	1970 – 2010
5 Automation	<i>The use or introduction of automatic equipment in a manufacturing or other process or facility.</i>	17th century – now

6 Industry 4.0	<i>Another term for the fourth industrial revolution. Term often used to refer to the developmental process in the management of manufacturing and chain production.</i>	2011 – now
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Source 1: i-scoop.eu Source 2, 3: salesforce.com Source 4: The Oxford Encyclopedia of American Cultural and Intellectual History Source 5: Oxford Languages Source 6: Design Principles for Industrie 4.0

1.1 Digitalization and digital transformation

The people living in the 21st century are increasingly confronted with the concept of digitalization. In the same way, however, we encounter an inexhaustible number of its definitions. The definition of the term “digitalization” is not fully uniformed and its interpretation differs in relation to the area in which the digitalization process takes place. Nevertheless, what most of these definitions have in common is, that it is a process of introducing digital technologies into various aspects of our lives. Starting from digitization of production processes, through the changes caused by the digital transformation in business organizations, to the digitalization of society.

Many sources combine the term digitalization with a specific change in organizations caused by the implementation of new digital technologies. According to the (Danish Institute of Industry 4.0, (2016) “Digital transformation represents the need for adapting to the new world, dynamics of digitisation and ubiquitous implementation of electronics and information-based technologies.” As a mass deployment of variety technical means and new software tools, with the main goal of a partial replacement of some physical and human managing activities by the appropriate management processes, describes DT (Veber, 2018). As hereby the physical interactions and habits of people might be affected, implementing such change might come with a certain resistance in the specific working culture. Following that, in order to proceed Digital Transformation meaningfully and successfully, these processes must be implemented on a strategic level. Nevertheless, this statement indirectly refutes the quote “Culture eats strategy for breakfast“ by Petr Drucker, although, he did not mean that the strategy is not important, however, that a powerful organizational culture can provide a surer path to the company success.

In production focused organization, digital transformation is mainly understood as changes in technology and in the introduction of robotization and further automation.

Nevertheless, the motivation behind this transformation is not the transformation itself. It targets to adapt and reflect changes in customer needs, market situation, etc., all with the aim to strengthen operational efficiency, speed and performance of the company. For a better understanding and therefore a successful implementation of the new technologies, a critical aspect is the necessity to combine them in a creative way with the actual human resources and focus on them in the broader context of social and economic situation (Mařík, 2016).

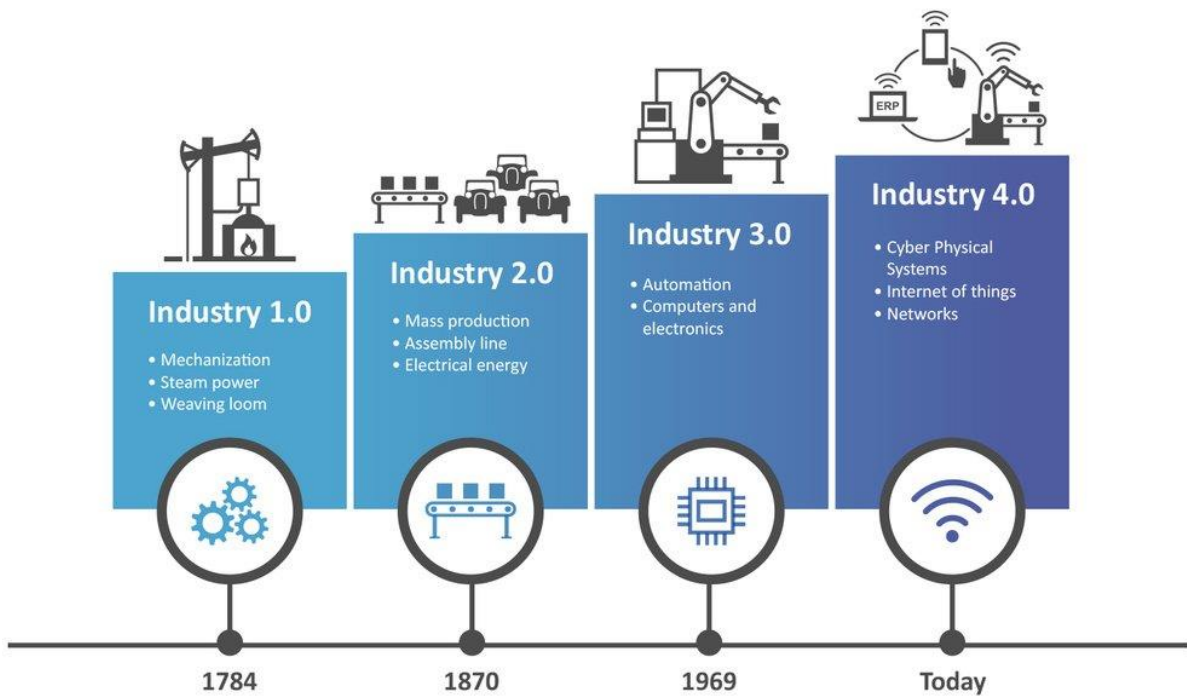
Digitalization is always evolutionary and ever-changing, as same as the customer or employee expectations (Swaminathan, 2018). Digital transformation can be then also understood as a process of reimagining of business models in the digital age. A process of using digital technologies in order to create new, or modifying existing, business processes, culture, and customer experiences to meet the demands of a changing business sector and market requirements (Benioff, 2019). Following the last statement we can deduce, that in reflection to the new specific demands and opportunities, digital transformation generally stands for the reimagining of businesses. That means that digitalization is not related only to the introduction of digital technologies into society or organizations, but also to the fact how companies or entities are able to deal and react on the related changes.

1.2 Industry 4.0

As already mentioned in the previous chapter, also production focused companies are affected by the digitalization. Adapting to the ever more rapid changes in customer demands, the manufacturing world is currently undergoing a fourth industrial revolution; a revolution covering the entire spectrum of technological and digital changes. The so called "Industry 4.0" is also being characterized as an increasingly digitization and interconnection of value chains and business models (Danish Institute of Industry 4.0, 2016).

The beginnings of Industry 4.0 originated already in 2006 in Germany, within the German Government's High-Tech Strategy project, initiated by the Federal Minister of Education and Research. The main goal, in addition to maintain the current position of the country at the top of the development and integration of digital technologies among the international competition, was to create a system that

facilitates the process of introducing digital technologies into organizations and companies in society.



Source: (© 2020 b.telligent, 2020)

Figure 1 Industry 4.0 Revolution

Some of the basic principles of the 4.0 revolution are (Kolektiv autorů, 2017):

- Interoperability - the ability of people and machines to communicate with each other and interconnect through the Internet of Things and the Internet of services / people
- Virtualization - physical tools and systems can be integrated with virtual models and simulation tools
- Decentralization - an ability of individual subsystems to make autonomous decisions, manage and perform tasks
- Real-time work - essential for communication and control in real-world systems

- Service Orientation - Standard services based on service-oriented architecture are preferred
- Modularity of systems - must be maximally modular and able to be configured, based on automatic situation recognition only.

Besides the production, also the product, the service, business strategy and the customer/consumer itself can become an integrated variable (Herman, et al., 2016). Nevertheless, from the production processes point of view, it is not only a matter of introducing automation and digitization of workplaces. The aim is to build integrated production and distribution units, both vertically and horizontally. The vertical integration is a decisive factor, which represents interconnection of all subjects and activities within the organization. While the “subject” can be everything from production equipment, through the information and communication technologies, to management activities (Veber, 2018).

Industry 4.0, is on the agenda of many, not only manufacturing, companies around the world. Yet most business leaders and managers have still not come to terms with the challenges and opportunities of the digital transformation or with the conceptual leap that this represents. And thus they are still unable to create suitable management response for it (Geissbauer, et al., 2018).

1.3 Digital Transformation in society and organizations

Digitalization is a long and constant process in which all domains of societal activities – from industries to entertainment, art to academia or health to environment – are concerned and reconfigured (George, 2020). Digital transformation can be then perceived as an actual process of change, when the digitalization is achieved (Fitzgerald, et al., 2013). Digital transformation leads to an improvement of the business through use of the new digital technologies. While the key of the whole DT process is to understand its full potential (Benioff, 2019). Digital technology, and its effective use, creates new business models, enhance customer experience and provide new opportunities that have never been possible to achieve before. However, many companies and individuals from different industries still

hesitate to acknowledge the depth and impact of the current developments. (Vey, et al., 2017).

Digitalization brings changes in different areas of management while these changes vary in regards to the scope of application, different industries or management fields. Digital transformation undoubtedly changes the demands on the performance and activities of the management. Therefore the organizations must be able to keep changing their shape, take the temporary solutions but also be able to abandon these, which are no longer needed (Swaminathan, 2018).

Reflections on the basic principles of implementation of digital processes into the organizations and possible new ways of leadership describe and further develop the results of the “Building the digital Enterprise” research, conducted by PricewaterhouseCoopers (Industry 4.0 Survey; www.pwc.com) in 2016. The respondents consisted of managers from more than 2,000 organizations, in total from 26 countries. And the research results were summarized in several points. In 2016, managers assumed that the companies they manage would have to go through the process of digitalization over the next 4-5 years, i.e. by 2020 – 2021, with all the DT associated activities, actions and facts as the followings:

- Digitalization will fundamentally change the whole existing market environment and bring significant changes in all areas of industry,
- customer's influence on organizations and their activities will be more significant,
- introduction of a new corporate (digital) culture will be a necessity,
- up-to-date technical acknowledged and skilled workers, as same as managers mastering new ways of managing will be an absolute must,
- new issues of ensuring the security of transmitted, processed and stored data will appear,
- need to change the approach to data analysis to a digitized and centralized system will increase,

- increasing awareness, that the "transition" to industry 4.0 is global, but not homogeneous; in different regions of the world is perceived differently and starts with different cadences,
- assumption, that digitalization automatically means the need for large investments in new technologies, such as software, devices ensuring the connectivity of system devices, etc.

This survey does not actually tell us anything new or anything what we have not known so far. However, the results show, that already in 2016 the management of the bigger or smaller international companies were clearly aware of the upcoming changes caused by digital transformation.

Digital transformation can create new business models, improve business processes, and change how the companies work with real-time information (Wokurka, et al., 2017). However, if these expectations are not followed by sufficiently sophisticated transformation strategy and lead by skilled managers, all the effort can easily lead to a failure. High expectations which are set on the results of ongoing digital innovations can therefore easily fail when they collide with the company culture (Wokurka, et al., 2017), as even companies that have excelled in the effective use of technology and systems in the past, have nowadays problems with its efficiency (Fitzgerald, et al., 2013),

An effective use of the new technologies nowadays requires completely new set of skills, knowledge and approach. Growing adoption of automation technology drives a significant shift in demand for skills, leading to a potential labour market changes (Geissbauer, et al., 2018). Therefore the main challenge of DT is not only related to the implementation of the new technologies, but to acquiring new skills, knowledge and abilities (The Role of E-Skills in Developing Sustainable Organizations and E-Activities in the New Digitized Business World, 2020). By combining these digital tools that enable more effective working processes, with a specific set of desired skills, companies can unlock an additional value (Geissbauer, et al., 2018) and take a significant advantage over the competition.

Relation between technologies and organizations/people working in these organizations further describes (Corbett, 2009) in his study. He distinguishes the

difference between prosthetic and aesthetic approaches, while the prosthetic approach claims, that technology is perceived as a means to expand human skills, abilities and range of working capabilities. Managerialism, as a partial concept of this approach, focuses then on the positive impact of technology on people and organizations; communication improvement, higher productivity, increase of efficiency, etc. However, other concepts point to the negative impact of technology on these subjects by limiting the abilities of autonomous human action, decision-making, imagination or emotional experience. Contrariwise, aesthetic approach perceive technology as an integral component of a society and the human being. Technologies change the way, how people perceive, and also interpret, the reality. Technology is incorporated into everyday life and used on a daily basis, and thus has become a natural part of the society, companies and even the individuals itself (Pavlica, et al., 2019).

In case of a proper understanding and seizing the right opportunities that DT provides, companies can meet new chances that can move their businesses closer towards a successful (digital) future. As the successful organizations are those, which briskly adapt to the new challenges and opportunities (Project Management Institute, 2018). With exaggeration and a use of automotive terminology, we can say that the so called “digital champions” are the ones who can transform their organizations and businesses into something like a “Jeep” - a four-wheel drive vehicle, suitable for any terrain, a small, little aggressive and perfectly manoeuvrable car (Gibson, 2000). In other words, a metaphorical vehicle stands more than a for machine, for a biological organism, made up of people working together, constantly learning and being able to face unexpected changes and new opportunities. While the purpose of DT in organizations is not to create one product, thanks to which the companies will be able to bask in a competition glory for a certain period of time. But to focus on a core business.

2 Management and leadership in the wake of Digital Transformation

Based on the proposition of scholars and sociologists (Bennis, 2001; Owen, 2006; Drucker, 2000; et al.), dealing with the concepts of management and leadership, we can say that with the advent of automation, industry 4.0 and the process of digitization arises a new question. And so, whether in this disruptive time it is still possible to continue managing people by "traditional" leadership methods and concepts. The answer to this question could possibly be a Drucker's vision for the 21st century, which says that there are currently two paradigms of the leadership perception, that are in conflict – a "traditional" approach, focused mainly on productivity in production and a "modern" approach, focused on new, innovative working methods and ways of leadership (Drucker, 2000).

Applied to the current situation, we can say that in an effort to reflect the changes that digitalization brings to almost all the industry areas, only a few relevant management/leadership approaches exist. So far, the currently most widely known concept that responds to the new digital demands and especially the manager's agility requirements, is called "Agile Leadership". This concept is considered to be one of the results of the research conducted by the Global Centre for Digital Business Transformation, carried out in collaboration with IMD (International Institute for Management Development), Cisco Initiative (DBT Centre) and "metaBeratung" HR consulting company in 2016 - 2017 (Pavlica, et al., 2019). An aim of this research was to compile a set of competencies and characteristics for managers / leaders that should enable the effective management in the ever-changing time of digitalization. The result of the study therefore offers a comprehensive set of basic managerial competencies according to which managers can be agile leaders (Neubauer, et al., 2017):

- Modest - able to receive feedback, self-critical and able to accept the fact that other people may have better knowledge, skills and ideas than themselves,
- Adaptable - consider a change being a normal part of their job, be able to react to new the information and subsequently agilely change opinions and approaches,

- Visionary - guided by clearly defined long-term goals, while constantly handling with the coming changes and feelings of insecurity,
- Engaged - willing to listen, communicate with both, internal and external representatives, work with external sources and information, while focusing on identifying new trends and ideas.

In addition, agile leaders should exhibit three key behavioural characteristics which should help them to orientate in today's disruptive world (Neubauer, et al., 2017). These characteristics mirror the organizational agility capabilities described in The Digital Vortex (Bradley, et al., 2015) and consist of:

1. Hyperawareness - constant scanning internal and external environments for new opportunities and threats,
2. Informed decision-making: making use of data and information to make evidence-based decisions,
3. Fast execution - ability to move quickly and value speed over perfection.

Another leadership approach that is able to deal with and reflect the requirements and challenges of the digital age, is called "Versatile Leadership". This approach recommends that managers of digitized organizations should be able to connect and combine opposing management practices. For instance: combining modesty and ability to listen with self-assertion or linking of the focus on long-term goals with the achievement of short-term ones (Pavlica, et al., 2019). Another worth-mentioning versatile practice is the use of diversity; i.e. the ability to work effectively with diverse information - both from internal and external sources, to work with different theories, accept different opinions and ideas and be able to work effectively with opponents and critics (Herold, 2016). Versatile managers should apply opposing practices in a balanced and prudent way. Excessive use of one practice can have an adverse effect on the opposite one, while - or even though, these two should be balanced. These managers should be able to correctly assess the situation, evaluate it and consequently respond to it adequately (Pavlica, et al., 2013).

Nonetheless, in spite of the new leadership styles and approaches and at the same time following the concept of combining the conflicting practices, it is necessary to mention, that implementing and searching for the new leadership concepts does not mean that the previous leadership skills are no longer necessary or needed. And as (Herold, 2016) says: “Quite the contrary, traditional leadership skills – such as the ability to effectively lead, manage, and inspire others – are now considered to be a bare minimum requirements.”

2.1 Manager in the digital era

The involved stakeholders of digitalization are mainly considered business entities and management subjects. And the companies are aware that a successful digital transformation needs an active support from the management side. Thus the very first changes should be made in this area – and start with the managers. In the previous chapter, we have already described the changes in the concept of leadership and partly outlined the characteristics and skills of leaders operating in organizations undergoing digital transformation. An aim of this part is therefore to supplement this with the changes in approach towards the current role of the manager and highlight new skills a knowledge needed in a process of digital transformation.

However, in order to properly emphasize an importance of this change, it is first necessary to describe a “traditional” role of the manager and how it is (still) perceived, nowadays. A famous management proverb of (Bennis), for instance, says, that “managers do things right, while leaders do the right things”. Some resources then (Boynton, 2016; Armstrong, 2008; (Toor, et al., 2008) et al.) claim that managers are those who follow rules, policy and fulfil the plan, while leaders follow their intuition, are creative, innovative and set the vision. Or that the managers delegate while leaders motivate. According to other sources, managers should be able to effectively and quickly respond to any unusual or unexpected situation, while putting their egos aside and keep a necessary emotional distance (Udo, et al., 2004). Whereas leaders don’t only respond but initiatively take an action and follow their emotions. Another publically available sources state that leadership skills are not a part of the manager’s skill-set and that leading is only in a competence of the

leader (Turk, 2007). When other popular statement in a row says that leaders are born while the managers are made.

From all the mentioned above, it is already clear that in a “traditional” sense, the role of the manager is strictly separated from the role of the leader. And the same was true of the concept and way of their leadership practices. But because digital transformation does not only represent a technological but also an equally large cultural shift in society and its organizations, it is more and more essential to change some established or traditional approaches in regards to the current requirements. Even though these approaches may have worked effectively already for decades. While managers are, among the first, ones who should be able to effectively respond to these changes. The most significant change in the role of manager in the digital era is then primarily the fact that s/he must take over the leader's role. Or as (Owen, 2006) claims “must be reborn as a leader”. As in order to be able to operate and manage the ever-changing environment and face modern digital challenges and opportunities of the digital era, good manager and good leader must be one and the same (Turk, 2007).

In the previous chapter was already mentioned a few sets of qualities that **managers, as agile leaders**, should have (Neubauer, et al., 2017). But the very first attribute that managers, as good leaders, should have, is an ability to promote an understanding of the digital transformation process and help other employees to develop new skills and digital knowledge. Employees must be aware of the upcoming changes and need someone who is able to lead, guide and motivate them throughout the whole process of digitalization. As only these, properly skilled and motivated, employees can successfully promote change in the organization and lead a team to success (Cotlearova, 2020). However, so that the managers~ leaders would be able to do so, they must first have the necessary knowledge and skills. So in order to be able to guide and motivate the subordinates throughout the process of digital transformation, according to (Nicoletti, 2012) should managers firstly acquire a proper knowledge and provide the following:

- Represent the stages of any (digital) process,
- exchange information between various people and stages

- understand the flow of information and the consumption of resources (time, financial, and human)
- be compatible with all the applications used.

In addition, there is an increasing need in organizations for managers who are abandoning the authoritarian style of management and, on the contrary, taking on the role of coordinators, coaches and advisors (Donnelly, et al., 1997). With this state also agrees (Owen, 2006) who says that “if manager wants to be successful, then must be the ones, who masters the art of making people he controls not subordinates, obeying his orders, but followers who follow him voluntarily and are willing to carry out his vision”. Moreover, managers must be able to form an organic and actionable team with these employees, professing the same faith, in which he is the first among equals (Owen, 2006). Managers, as agile leaders, should therefore be based on the traditional concept of the role of a leader in a sense of leading by example, being an inspiration, supporting, motivating and providing visions. However, as good managers, they should be also able to respond quickly to any situation that the transformation process brings.

The requirement of agility is practically one of the basic principles of digital transformation, and thus also the most discussed. Every change in the organization requires a strong and stable leadership style along with the necessary knowledge and skills. However, what is considerably overshadowed in the period of digitalization are these necessary skills and knowledge. Paradoxically, with the increasing degree of digitization and digitalization of the working environment, the importance and need, not only for the technical, but also for soft skills is rapidly growing (Langley, 2018). Other soft-skills, which also follow the concept of agile leadership, can be, for example, those from a concept of three basic (meta) competencies created by Wills and Barham (Wills, et al., 1994), which are: cognitive complexity, emotional energy and psychological maturity. While all of these are further divided into the more specific ones. From the most relevant ones we can mention: ability to differentiate - to look at things from different angles, ability to integrate - to search for new ways and possibilities, active listening, ability to express emotions and communicate it appropriately, emotional flexibility– ability to manage

and deal with the different situations, ability to risk, interest and orientation on a self-development, curiosity, willingness to learn, respect, good time management and systematic planning and last but not least personal moral autonomy.

2.1.1 Project manager in the digital era

In order to cope with the globalization in the digital world and to manage the impact of new technologies, business must be agile and able to react quickly on increasingly evolving and highly competitive environment. This fact creates new challenges and opportunities for Project managers, no less than for the others.

Project managers generally play a lead role in planning, executing, monitoring, controlling and closing projects. They are responsible for the entire project scope, resources, and also for the success or failure of the project itself (Moirá, 2019). A set of duties of a project manager range from administrator to the Million-budget manager, and therefore it is impossible to establish one agreed definition of his/her set of responsibilities for all sectors and areas. Nevertheless, the Project Management Institute (PMI) tries to define three different competency dimensions, such as knowledge, personal and performance dimension, where the knowledge and performance competencies follow a set of nine project management knowledge areas described in the Project Management Body of Knowledge (PMBOK® Guide). On the other hand, according to the Association of Project Management (APM) a basic set of the project manager's skills consists of decisive, motivating, coordinating, problem solving and other skills (Association for Project Management, 2020). While the IPMA answers the same question by a variety of competencies and qualifications such as knowledge, experience and personal attitude. To conclude, the position of project manager demands on overall defined skill set and personality profile, depending on the scope and the operational field of the project manager (Udo, et al., 2004).

Following the digital transformation, project management has generally undergone variety of changes. Even a well-designed, structured and sufficiently financially secured projects supported by experienced specialists can fail in many ways - whether the actions of all participants are not skilfully and systematically coordinated and managed (Udo, et al., 2004). This fact emphasize an increasing importance of

the project manager's role as a leader; their leadership role in motivating people and creating an effective working environment (Anantatmula, 2010) in order to support the project teams to overcome greater challenges and be able to successfully operate in the digital environment. Project leaders are becoming more essential as organisations recognize that strategy is implemented through projects and programs, and as disruptive technology frees them from ordinary routines, providing more opportunity to innovate (Langley, 2018).

It is already well known that the skills of managers, needed for ensuring a company's success in today's ever-changing digital world, are much more complex (Turk, 2007). Nevertheless, the basic set of skills associated with digital transformation are generally still considered to be technical and computer-oriented, such as programming, coding and software skills (Langley, 2018). A commissioned in-depth research by PMI's *Pulse of the Profession* tries to change this perception by outlining the top six digital-age skills. This research was conducted among 469 HR professionals and 523 Project leaders, from the mid-to large size companies (with 50+ employees) all over the globe. The following combination of skills was found as the most important in building the digital capability (Project Management Institute, 2018):

1. Data Science Skills – data management, analytics, big data
2. Innovative Mindset
3. Security and Privacy Knowledge
4. Ability to make Data-driven Decisions
5. Collaborative Leadership Skills
6. Legal and regulatory compliance knowledge

Project managers nowadays, need to have a command set of complex technical, leadership, project management, strategic, and business management skills. This statement also follows the concept of the so called “Project manager 2.0”, where the proposed skill set of the manager operating in a VASP age¹ order, “that is changing

¹ VASB age - Virtual reality, Artificial intelligence, Social media, Big data

the thinking, behaviours, and day-to-day management routines of personal and professional lives of people” (Jiwat, 2019), consists of:

- Social media sense – ability to use SM effectively for performing the project management tasks,
- data driven approach – capability and knowledge of the big data analytics,
- tragile² project manager skills - ability to combine both traditional and agile management/leadership style accordingly to the project task and situation,
- digital leadership skills – ability to constantly learn and develop the knowledge of new or currently available digital technologies (AI, BD, SM etc.),
- active self-management through real-time learning and growth – ability to use the knowledge gained through the external sources based on a need for manager’s own self-realization and self-development,
- stake-owner management skills – ability to use VASB Age technologies to analyse the impact and create a solution in project management processes to manage and fulfil stake-owners’ needs,
- technological foresight skills – ability to understand the technological evolution and be sufficiently prepared for the possible technological changes.

PMI describe “the ideal skills set” of the project manager, in a shorter variation, by a PMI Talent Triangle® bellow.

² Tragile = combination of traditional and agile (leadership skills)



Source: (©Project Management Institute, Inc., 2020)

Figure 2 The PMI Talent Triangle®

Besides the skills that are explicitly demonstrated in this figure, the Triangle also represents the focus on developing additional skills which managers need in order to meet the evolving demands on their specific profession. PMI also adds, that in this fast digital time, where digital transformation is impacting every aspect of the PM work, organizations need project leaders with an ability to learn and keep pace with technology, so the Triangle also represents new opportunities to elevate the professional value of the individuals (Project Management Institute, 2020)

To sum this up, in project management any manager who is not innovative is most likely unable to survive. According to (Turk, 2007) project managers operating and dealing with the digital transformation should:

- Have goal and be enthusiastic while reaching these goals,
- act and lead by example
- be creative, innovative, flexible in problem solutions and approaches
- communicate – goals, values, visions, expectations and the current state
- listen, let talk and learn from the others
- praise in public, correct and critic in private, stand up for the team
- be loyal to the team and to the organisation

3 Digital Transformation in ŠKODA AUTO a.s.

ŠKODA AUTO a.s. is a company with a history of over 120 years. The company values, following the brand mission³ and vision⁴ statements, represent an innovative brand that stands for practicality, reliability when using modern technologies and visionary ideas. However, the traditional hierarchical organizational structure of the company still plays an important role in the corporate culture and strategy. Although, the process of digital transformation puts new obstacles and challenges in the traditional ways of handling the business. Therefore, in order to understand the new demands, challenges and opportunities, some of the traditional approaches must go aside and be replaced by the new ones, that are able to reflect the new digital challenges with more efficiency. Hence this part of the thesis aims to describe the status quo of digital transformation in a monitored company; distinguish the impact of digitalization which at the first glance might not seem to be fully recognized and conversely, to describe the processes that is ŠKODA already implementing in connection with the digitization processes.

3.1 ŠKODA Strategy 2025

In order to become a strong and relevant global player like today, ŠKODA AUTO has had to overcome many challenges and adapt to an ever-changing environment. However, in recent years, new trends and topics have emerged and challenged the organizations like never before (Jancuska, 2020). Globalization, automation and digitization have been changing the entire automotive industry, and ŠKODA AUTO is determined to react on these changes and use them to its advantage. Therefore another business goal of the company, in addition to the main business activities such as the development, production, car sale, service and brand accessories, is a transformation into a Simply Clever company. It is to a company that offers

³ Mission – “*Driven by inventiveness.*

For more than 120 years, we dedicate our entrepreneurial spirit and passion to individual mobility. And we will keep on doing it in the future!” (ŠKODA AUTO a.s., 2020)

⁴ Vision – “*ŠKODA – The SIMPLY CLEVER Company for best mobility solutions!*

Regardless of our customers’ milieu – families, entrepreneurs, commuters or simply connoisseurs who want to enjoy the pleasure of driving – ŠKODA is the smart choice. Clever Ideas for individual mobility have kept us moving for more than 120 years. Now it is time to invent the best mobility solutions for the future.” (ŠKODA AUTO a.s., 2020)

customers the best mobility solutions and digital services (ŠKODA AUTO a.s., 2020). The strategy of this transformation is described by an internal document of ŠKODA AUTO *ŠKODA Strategie 2025*. The document was created in reaction to the dynamically developing market environment and as a response to the transformation of the automotive industry. The strategy sets the direction for the entire company based on identified megatrends and emerging demands. While the main objective is to make the company ready for future (Jancuska, 2020). And digitization is then officially among the cornerstones of the ŠKODA Strategy 2025 (ŠKODA AUTO a.s., 2016).

ŠKODA Strategie 2025 aims to increase agility and strengthen the company's innovative culture by (Corporate Strategy and Innovation management, ŠKODA AUTO a.s., 2016):

- Strengthen the performance culture at ŠKODA
- Nurturing innovations across the whole company
- Development of new capabilities and skills

As already mentioned, ŠKODA AUTO is currently in an ever-changing environment. Therefore, the company's strategy must be flexible enough and able to respond to constant changes, requirements and challenges not only from the world of the automotive industry or in relation to the digital transformation. Nonetheless, teams from various functional departments of the company participate in the company's ability to react agilely to the ever-changing environment. Managers and their teams are therefore at the forefront of all changes and their approach, commitment and activities are the main pillars of a successful (not only digital) transformation.

ŠKODA Strategy aims then to increase the agility and strengthen the company's innovative culture. As part of the effort to develop abilities and skills, ŠKODA AUTO therefore provides many workshops and trainings, not only, for managers.

3.1.1 ŠKODA workshops and trainings

ŠKODA AUTO is fully aware of the fact that the key factor of every change in the company are first of all the people. And therefore offers a large number of different

workshops for all the professional divisions from production to the top-management. The following list consists of workshops targeting mainly the management area; specifically then the positions of MK, OMK and TMK. However, although the workshops are not directly focused on the process of digitization, the content of each is focused on the main attributes that managers in the DT process should undoubtedly have.

- Learning Journey aims at changing perspectives, understanding innovative business models, learning from other people's and companies' experiences, and strengthening one's digital skills.
- Leadership @ ŠKODA focuses on identifying the personal potential of the leader, strengthening competencies, self-awareness, systems thinking, ability to manage change and innovation or share visions
- Remote leadership aims to strengthen the competence in partial or complete remote team management, search for practical solutions, support of team culture in remote management, getting acquainted with available IT tools
- Regular company culture workshops focuses on mastering the approaches and tools by which managers can contribute to the development of corporate culture in the specific department
- Agile leadership fundamentals focuses on deeper understanding of meaning and principles of agility and agile leadership
- Fast Coaching "Leadership in uncertain times" teaches how to approach the crisis as a chance and preparation for overcoming personal borders

Nevertheless, in order for the company to be able to provide a proper set of trainings, workshops and other educational events reflecting the current needs and requirements, it is first necessary to find out what are the reasons for its implementation. What is behind the need for improving the current state and generally what is the background for implementation of such workshop. Whereas based on the obtained data, a plan of future development of the current state can be compiled. And this is exactly one of the main purposes why a wide range of

different surveys and questionnaires are running in all sectors of the company almost every day.

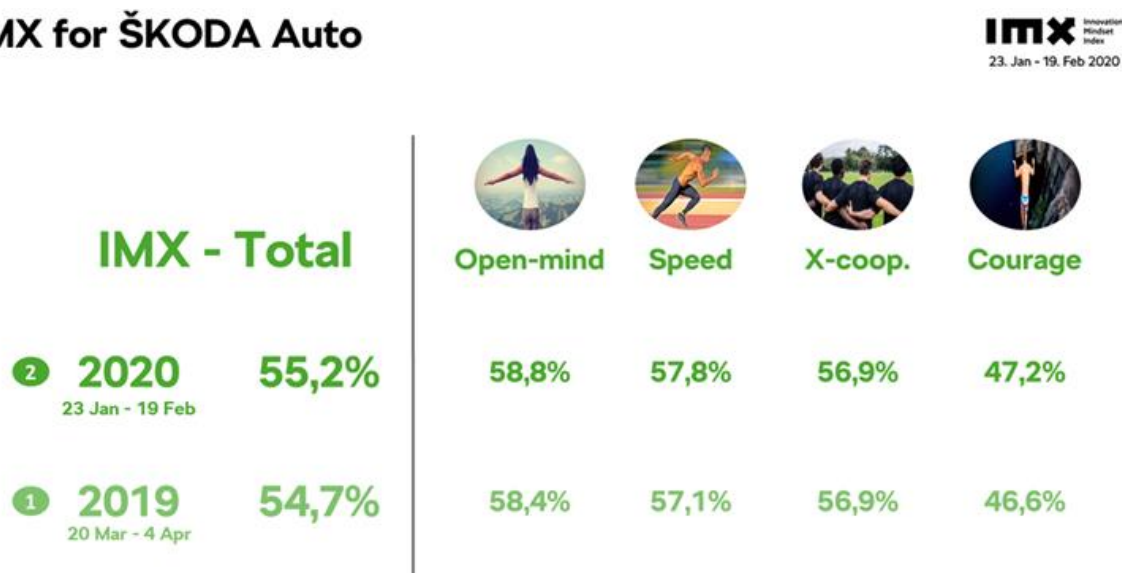
3.2 Researches applied within ŠKODA AUTO a.s.

ŠKODA AUTO is generally well known for a large number of questionnaires and surveys that are constantly running in almost every area of management. Among the most well-known, and also probably the most discussed, is, for example, Stimmungsbarometer – a VW Group tool for measuring the general satisfaction of the employees. Nevertheless, this subchapter aims to describe another representative of the researches that have already been applied on various management departments within the monitored company and one of these is IMX – the Innovation Mindset Index. For the thesis purposes is possible to use only partial information, however, as a demonstration of how ŠKODA moves forward towards successfully managing the digital transformation process, this information are still quite sufficient.

3.2.1 IMX – Innovation Mindset Index

Innovation mindset index then stands for a quick orientation method for measuring core dimensions of innovative thinking in the ŠKODA AUTO Company.

IMX for ŠKODA Auto



Source: (ŠKODA Space ŠKODA AUTO a.s., 2020)

Figure 3 Innovation Mindset Index

The Methodology was developed by InnoTeam; a group of managers responsible for a corporate strategy, innovation management and enterprise-wide digitalization. IMX measurement takes place via a short electronic form twice a year. On the figure above can be seen the overall results from the last measurement from June 2020. Whereas the second round of measurement for this year is currently running. Measurements focuses on 4 dimensions of corporate culture that have a major impact on the future success, namely: openness to new thoughts, ideas, trends and changes, speed of their implementation, cooperation across departments and the courage to try new things or take a risk. The measurement is based on 12 closed and 3 open questions. And the participant evaluates himself and his colleagues. The output of the measurement is not only the index itself, but also valuable data about the working environment in the company and specific inputs for measures to its improvement (Ondráček, 2020).

4 Empirical Research

Surveys focusing on measuring general factors such as openness towards new challenges, speed and quality of communication between departments or effectivity of cross functional cooperation, have been conducted several times in the company and have always yielded interesting and useful data. Data on the basis of which dozens of different measures for improvement have been taken over the years, including the ones related to the digital transformation and digitization processes. All these measurements applied a uniform methodology and a single set of questions to the entire spectrum. That means, uniformly for the entire branch of the company's management area, without distinction of professional competence. Whereas the obtained data were then evaluated for each sector separately. These surveys have provided valuable comprehensive data about the overall situation as same as the situation on a specific management level. A sample of the most recent surveys is briefly described above, in the chapter Researches applied within ŠKODA.

The empirical research, which is the main subject of this part of the work is inspired by these, successful - currently running or already completed measurements applied within the company. However, what differs this research from the other surveys is, that it is created and conceived exactly for the selected department. In addition, the entire research is supported by an experience gained in the monitored department from the position of an intern.

4.1 Main goal of the empirical research

Main goal of this research is to compile a summary description of the current state of a specific management area in ŠKODA AUTO, in relation to the process of digital transformation. The main objective of the survey is to detect a personal approach of the managers and other employees in project management towards the DT. A specific aim is to determine a level of awareness of DT currently taking place in automotive and monitored company; identify the level of understanding of the process of digitalization and of an acceptance of the changes that the digital transformation brings. Next specific aim is to distinguish the traditional and

current/desired role of the manager in the digital era. Following the findings from the theoretical part, another goal is to determine the personal readiness of managers, and other employees working in the project management for the changes associated with dynamically evolving digitalized environment. The main goal of the survey is therefore to answer the critical question reflecting the current situation:

- How wide is awareness of digital transformation?
- What changes does digital transformation for PM in ŠKODA AUTO bring?
- How much does DT affect managers and how much other employees? Is there any difference between these two groups?
- Will the role of the manager change in regards to the DT process according to the employees?
- What needs to be changed in connection with the process of DT? Are there any changes needed at all?

The survey was tailored to a specific project management area and aimed at personnel currently working in project management, i.e. employees working in managerial positions - MK, OMK and TMK and other employees operating in this field. At the same time, the content of the questionnaire (see Appendix 1) partially follows up on the latest IMX measurement or reflects the matter of workshops improving the readiness of managers for changes caused by digitization and the process of DT, currently offered by the company.

The research was carried out in the form of a questionnaire and distributed to the employees currently working in project management area of the company. Whereas the questionnaire itself was filled in on an online platform that was shared by email through a link referring to the specific online domain. This fact allowed us to look into the interim results and thus monitor the representation of individual departments. However, besides that was the survey fully anonymous. Each of the answers forms a significant and valuable part of the result, nevertheless no personal data has been further analysed or individually published. Structure-wise the questionnaire is divided into the following six thematic areas:

1. General Information

2. Awareness of digital transformation
3. Personal approach towards digital transformation in the company
4. Online / digital cooperation
5. Manager, leader and leadership methods
6. Digital transformation workshops and schoolings

The total number of addressed managers and employees from this area was 80, of which 46 responded. Half of these 46 respondents consist of managers; i.e. MKs, OMKs or TMKs. While 75% of the overall number of respondents consists of the employees and workers from the core of project management of the monitored company.

4.2 Empirical research results

This part of the thesis, first of all, describes the specific findings obtained in the empirical Research. While in the second part are these data summarized and at the end, a brief solution proposal is provided.

4.2.1 1 General Information

The first set of questions covers demographics and general information about the respondents, i.e. gender, age, their current job position or the employment time in the company.

1. What is your gender?

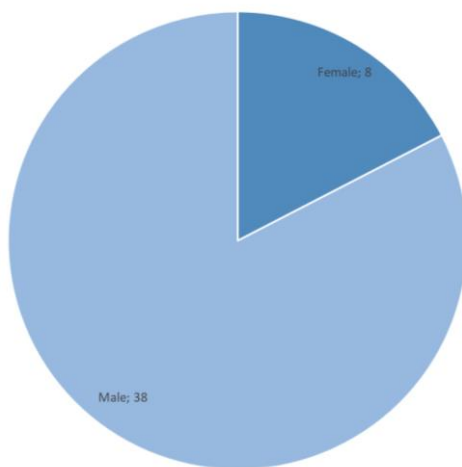


Figure 5 General information

2. How old are you?

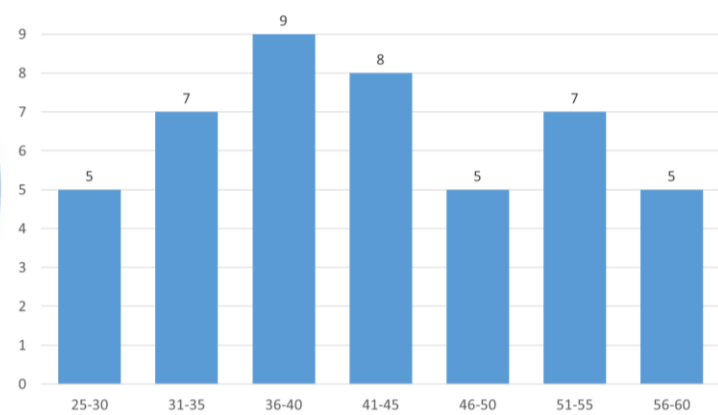


Figure 4 Digital General Information

3. How long have you been working for SKODA?

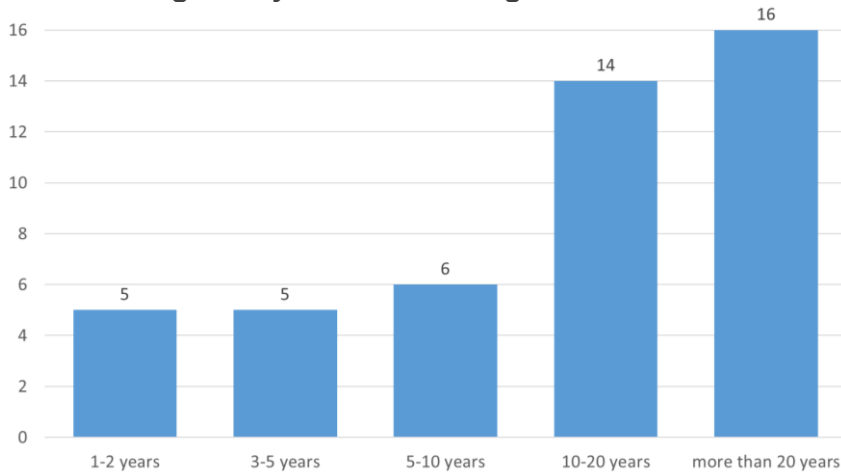


Figure 6 Digital General information

As seen from the Fig. 4-8, the total amount of 46 respondents consists of 38 men and 8 women. The age interface of the respondents is then evenly distributed between 25 and 60 years. Whereas an employment time of more than 60% of participants is more than 20 years, and 30% between 10 and 20 years.

One half of overall amount of respondents have a managerial position, while Baureihe; the core of project management, is represented by almost 70% of respondents.

4. In which department are you currently working?

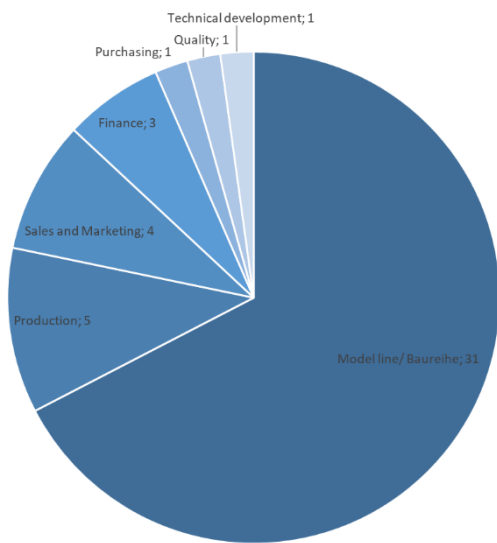


Figure 7 General information

5. What is your current position?

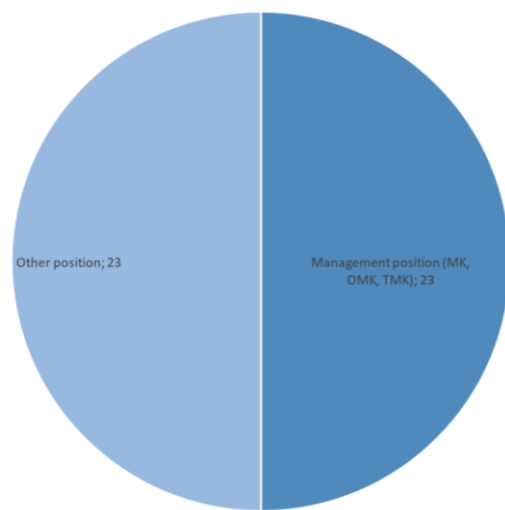


Figure 8 General information

4.2.2 2 Awareness of digital transformation

Second set of questions focuses on the awareness of the digital transformation; personal awareness of the term, interest in a process of DT in the company and awareness of digital tools and technologies implemented in their departments.

6. Do you know what the term "Digital Transformation" stands for?

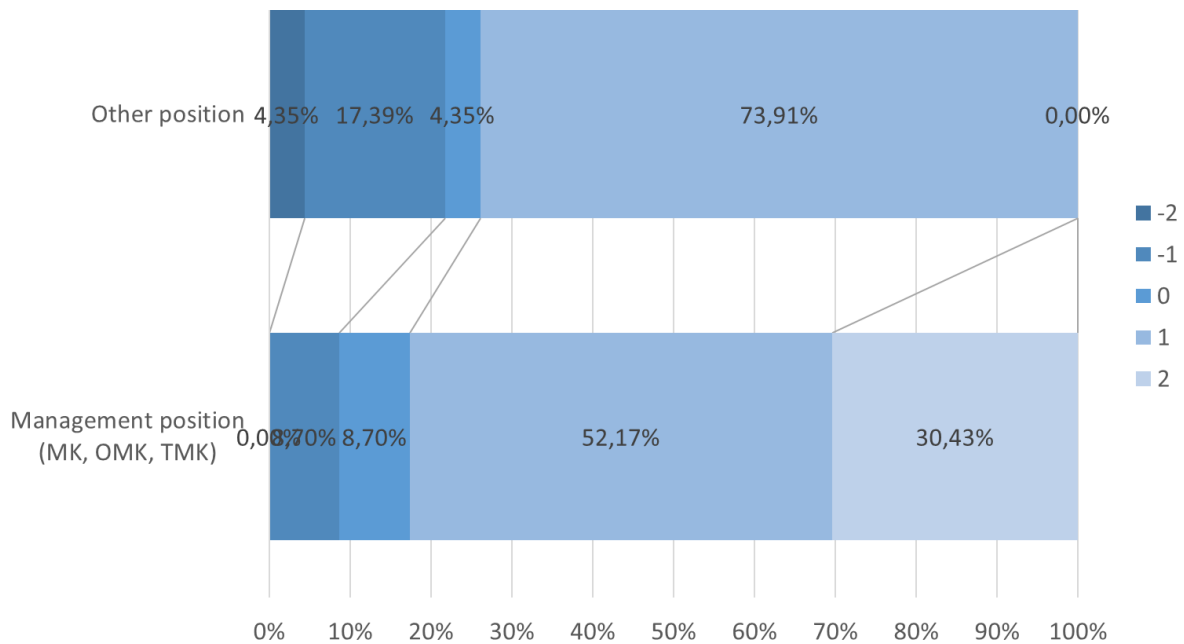


Figure 9 Awareness of Digital Transformation

This graph shows the differences in certain awareness of the concept of DT among managers and other employees working in project management. In this case managers seem to be generally more aware of the term Digital Transformation, than the rest of the employees, as more than 80% of managers claim that they are aware of this term, while 30% of whom fully. In addition, if we compare the numbers of how many respondents do not know, or are not sure, what the term means, the level of knowledge of employees is almost 10% lower than the knowledge of managers.

7. What is the first thing that comes up to your mind hearing “digitalization” or “digital transformation” in ŠKODA AUTO?

ANSWER	RESPONSES	RATIO
Implementation of new (online) digital tools and technologies in all areas - including management	29	63%
Transformation of working methods - agile leadership/management, new business models, simplification of working processes	19	41.3%
Implementation of digital tools in technical development - automation, robotization, software development, etc.	13	28.3%
New challenges followed by new opportunities, possibilities and benefits	12	26.1%
Culture change; new skills and knowledge requirements, mindset change, changes in the working environment	9	19.6%

Figure 10 Awareness of Digital Transformation

According to the responses, the term “digital transformation” and “digitalization” are mostly perceived as an implementation of new digital tools and technologies in all areas – including the management area. Whereas the view of one quarter of respondents follow the general perception of the digital transformation. I.e. that DT stands, first of all, for changes in technical development and implementation of new technology and digital processes only in this segment. Another fact is that more than 60% of respondents yet do not share the opinion and understand the necessity of transformation of leadership processes in relation to DT. On the other hand, the remaining 40% are of the opposite opinion and almost 20% of participants find changes in culture, such as new requirements for knowledge and skills, change of mindset, etc., as an integral part of DT

8. Are you personally interested in the process of digital transformation in ŠKODA AUTO?

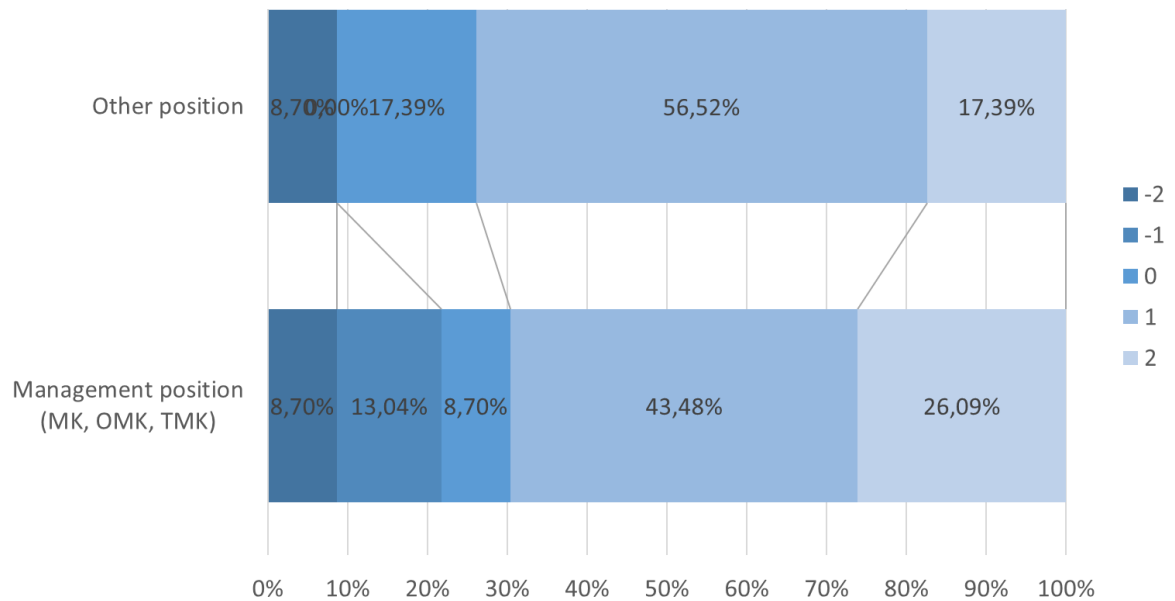


Figure 11 Awareness of Digital Transformation

Of the total number, more than 70% of respondents are interested in DT. However, an interesting fact is, when comparing the group of managers with the group of other employees, that the interest in the process of DT from employees' side is slightly higher.

4.2.3 Personal approach towards digital transformation in ŠKODA AUTO

The third part of the questionnaire is devoted to an individual experience and personal perception of the usage and efficiency of the new digital technologies and tools implemented and applied in their departments.

9. Do you personally feel affected by the digital transformation in the company?

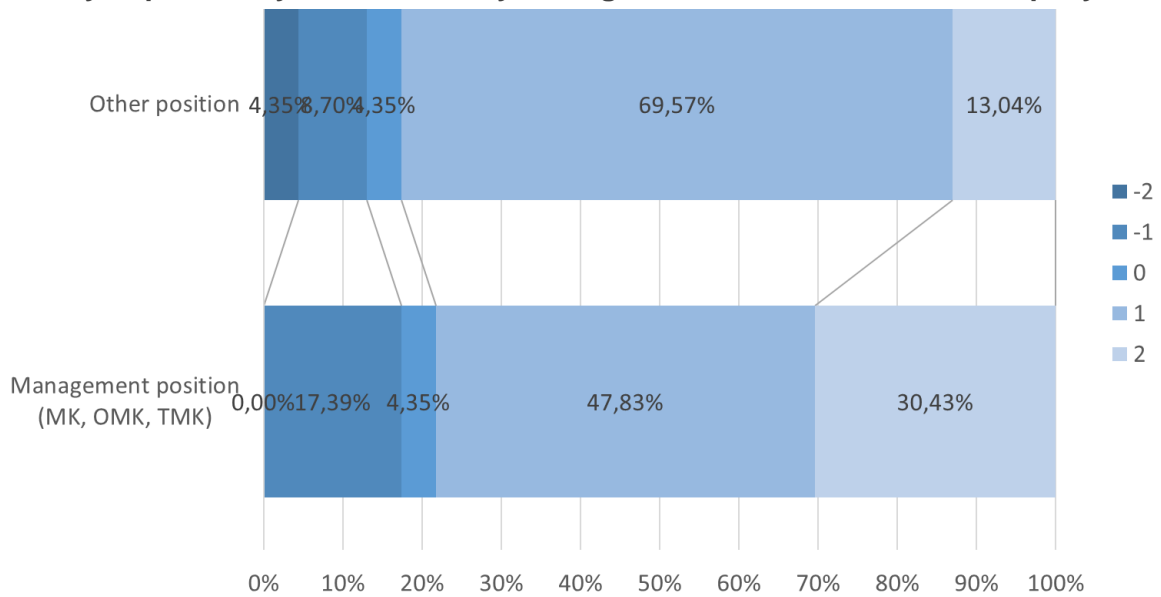


Figure 12 Digital Personal approach towards DT

The overall data show that almost 80% of participants feel, positively or negatively, affected by the process of digital transformation. Furthermore, the chart above shows that, from the two compared groups are other employees the ones who feel more affected. And oppositely, more than 20% of surveyed managers either do not feel affected or feel hesitant to answer.

10. Based on your impression, how is your department dealing with the process of digitalization?

a) Passively vs. actively

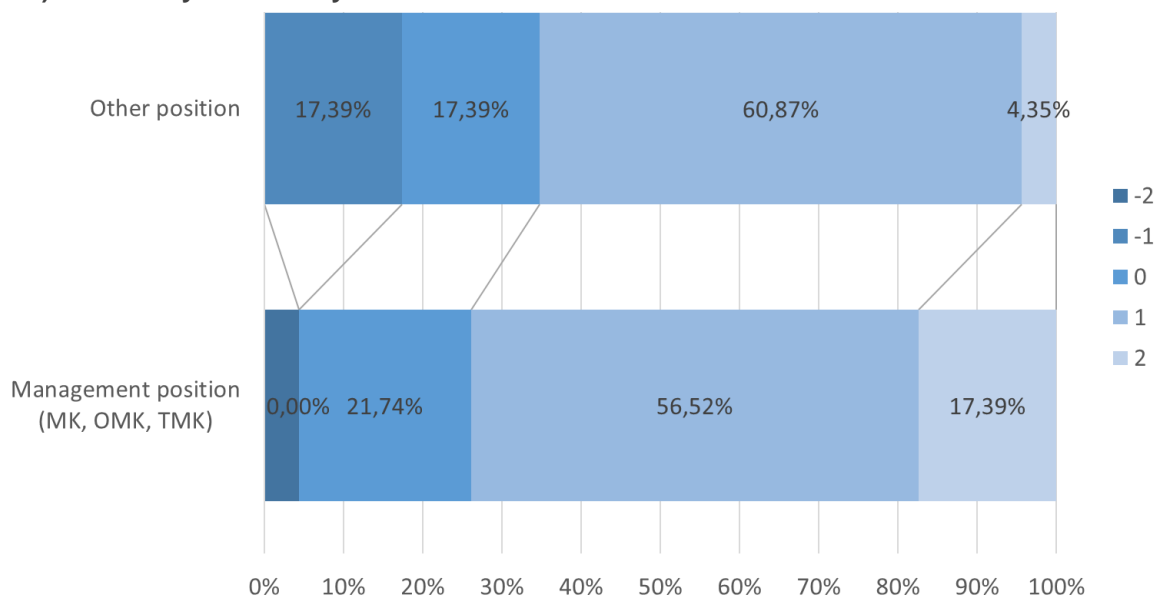


Figure 13 Personal approach towards DT

b) As a risk vs. as an opportunity

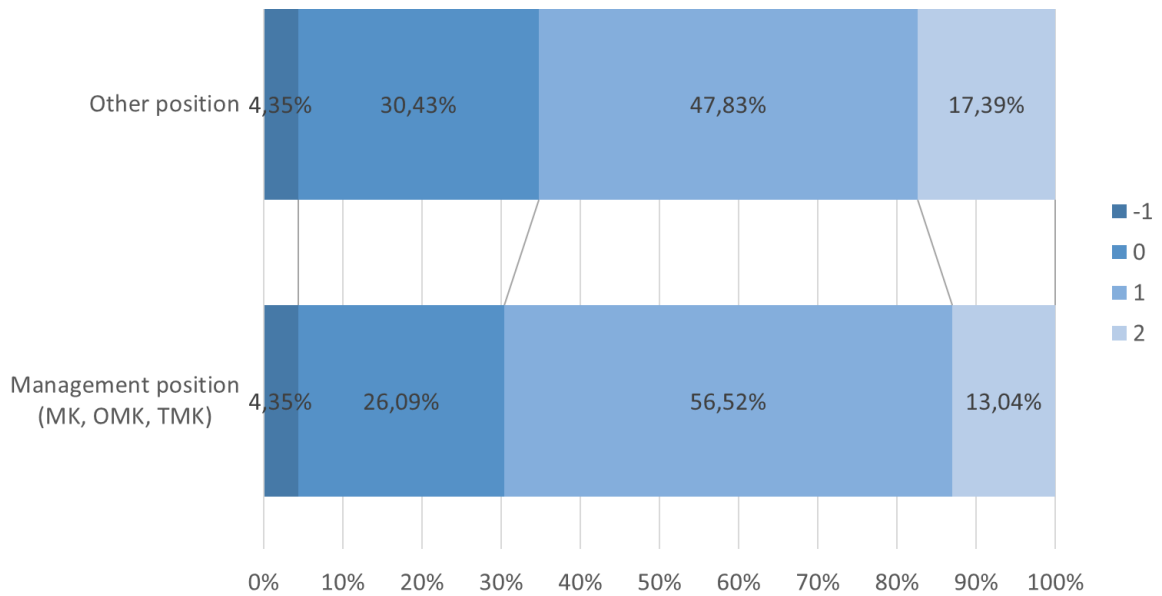


Figure 14 Personal approach towards DT

c) Hidden vs. transparent

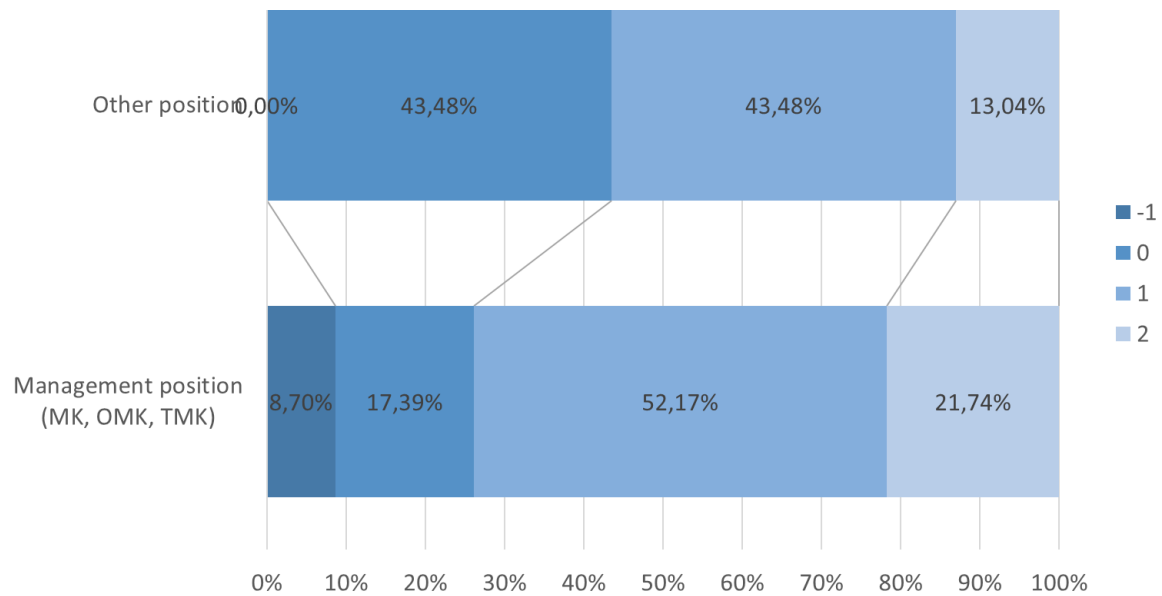


Figure 15 Personal approach towards DT

The lighter blue parts of the first chart above show a small gap between the perception of the group of managers and other employees. Whereas managers

generally perceive the digitalization processes being handled more actively in their departments.

From the point of view of other related consequences (b), the process of digitization is perceived almost identically by both observed groups. Where almost 30% of respondents do not perceive digitalization neither as a risk, nor as an opportunity.

To the question whether the respondents find the digitalization processes more hidden or transparent (see **Fig.15**), more than 70% of managers responded that rather or fully transparent. Conversely, almost 10% of respondents from the same group claim that the process is completely hidden. Whereas this phenomenon does not occur at all in the group of other employees.

11. Are you aware of any implementation of new digital technologies and tools in your department?

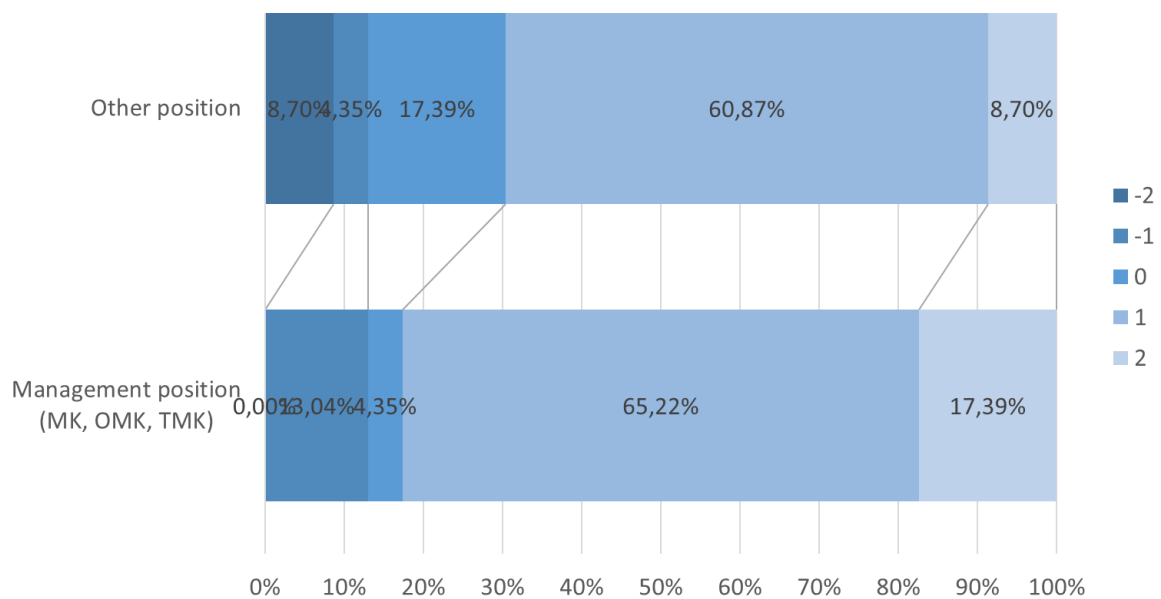


Figure 16 Personal approach towards DT

More than 80% of responded managers and almost 70% of other employees feel aware of an implementation of new digital tools and technologies in their departments. Nevertheless, in both observed groups, there is still a certain percentage of respondents who do not (want to) particularly notice any implementation of digital technologies, or even, in the case of other employees, are not aware of any at all.

12. Are these new digital technologies more beneficial and helpful or rather annoying and difficult to handle for you?

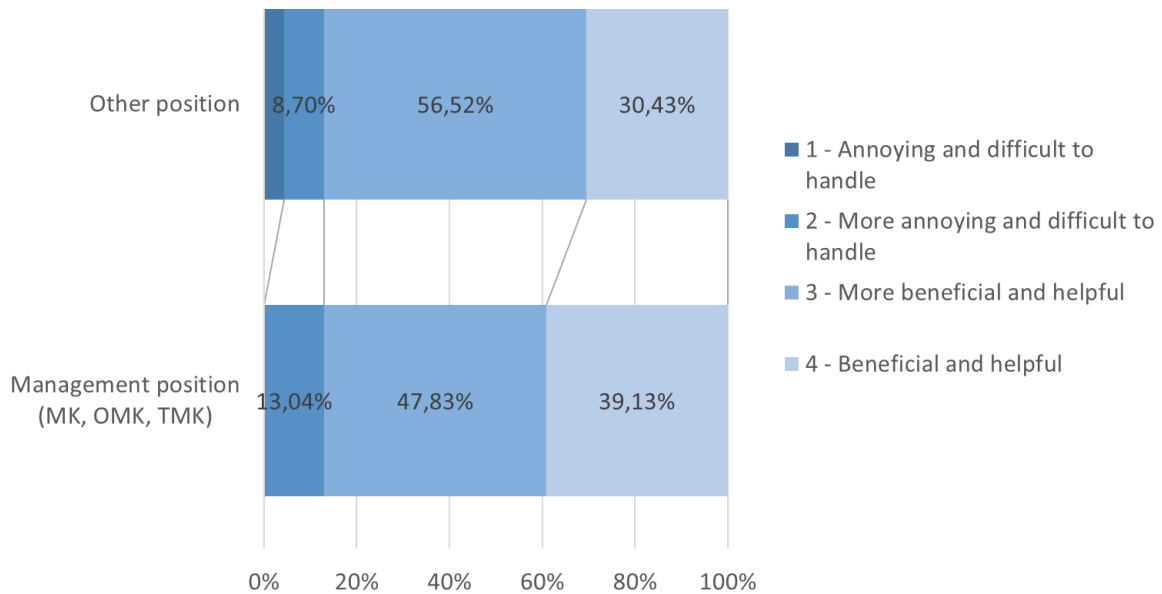


Figure 17 Personal approach towards DT

This chart illustrates a personal view of the use and efficiency of the implemented digital technologies. Figure 17 illustrates a personal view of the use and effectiveness of implemented digital technologies and whether respondents perceive them more as helpers or whether it rather complicates their work. And according to the obtained data, the approach towards the technical part of the DT is mostly positive. As nearly 90% of the total number of respondents see the new technologies beneficial and helpful for their work.

13. How does the increasing implementation of the new technologies and tools make you feel?

a) Anxious vs. excited

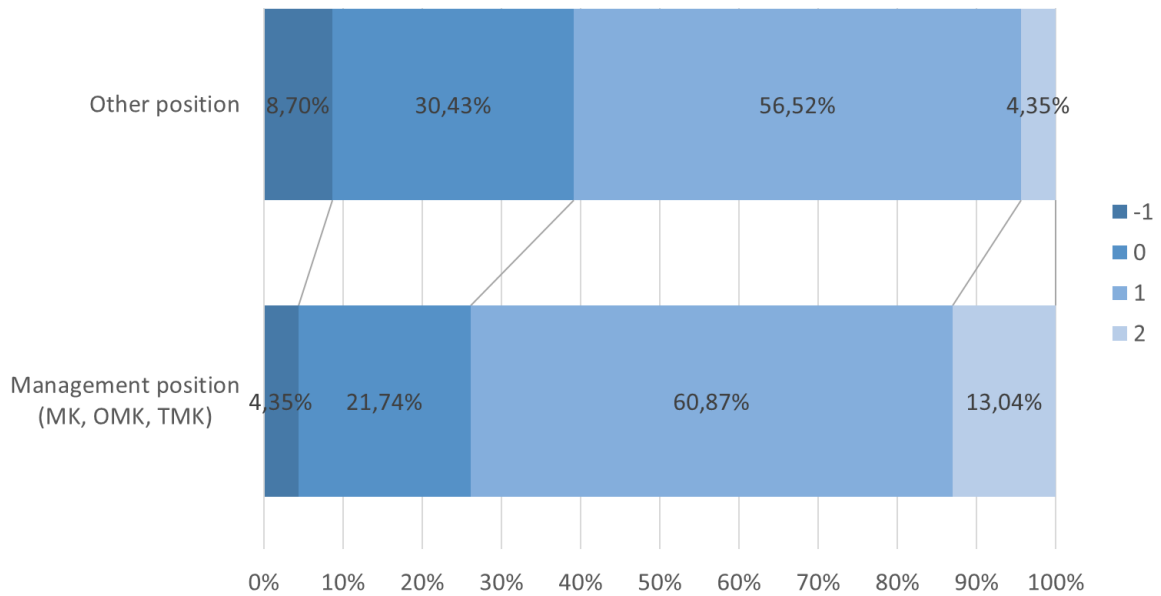


Figure 18 Personal approach towards DT

b) Hesitant vs. released

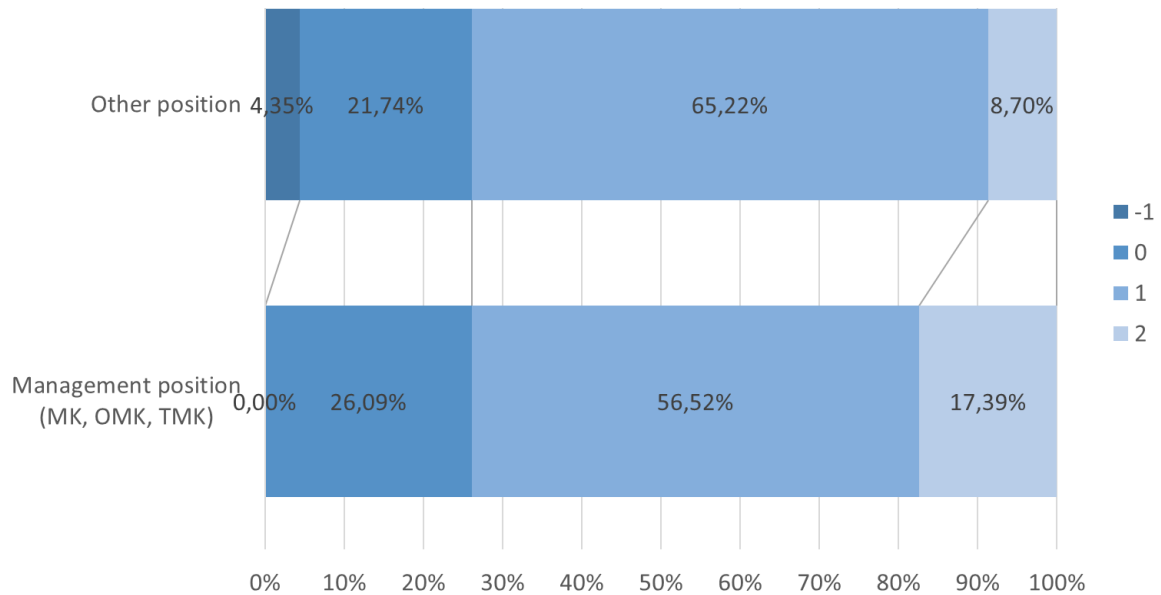


Figure 19 Personal approach towards DT

c) Stressed vs. released

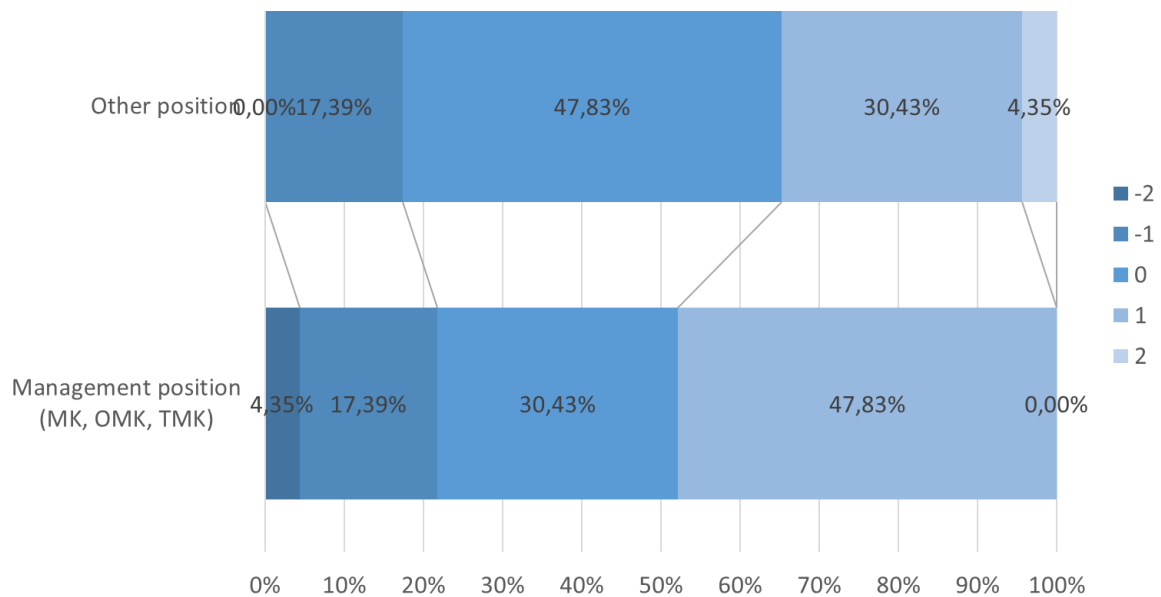


Figure 20 Personal approach towards DT

In the case of Figure 18, a higher percentage of employees, compared to managers, feel more anxious about the implementation of new technologies. Despite the previous results (see Fig.11), the data from the first and second graph claim that managers are more “excited” and “curious” than other employees in. While more than ¼ respondents do not feel any emotional changes in this regard. The data shown in the Figure 20, demonstrate an evident set of differences between the two responded groups. Managers, in this case, feel generally less released and even a certain percentage of this group feel stressed. This difference may be, caused by the fact that managers are generally more aware of the process of DT and thus about the challenges and pitfalls that DT brings.

14. Are you equipped enough in order to be able to use the new communication tools?

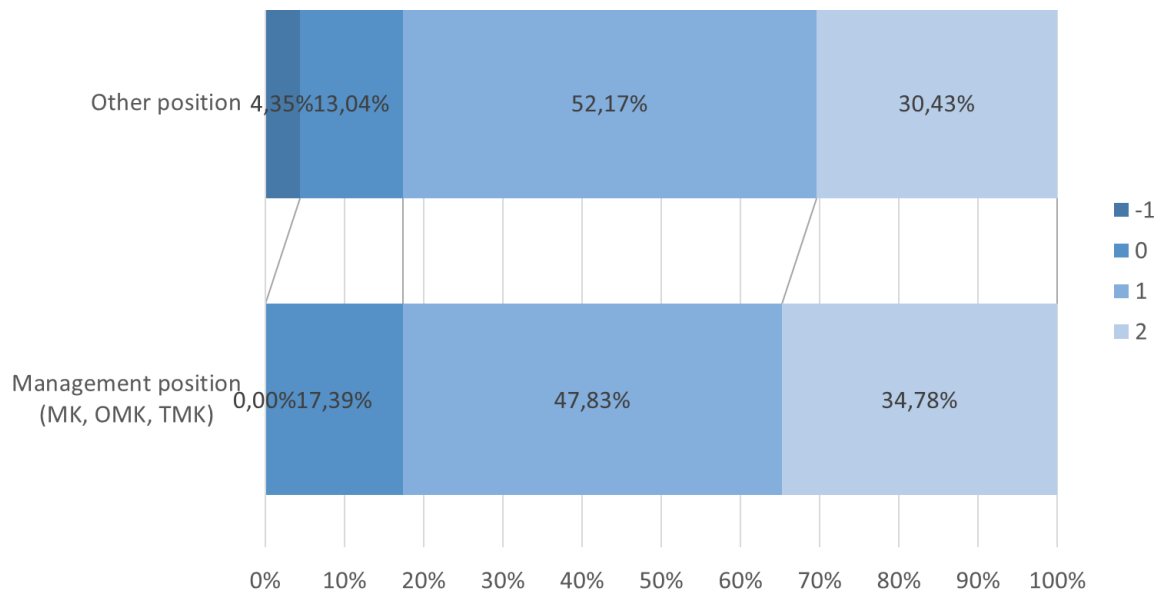


Figure 21 Personal approach towards DT

15. Do you have enough information/materials about how to use new technologies?

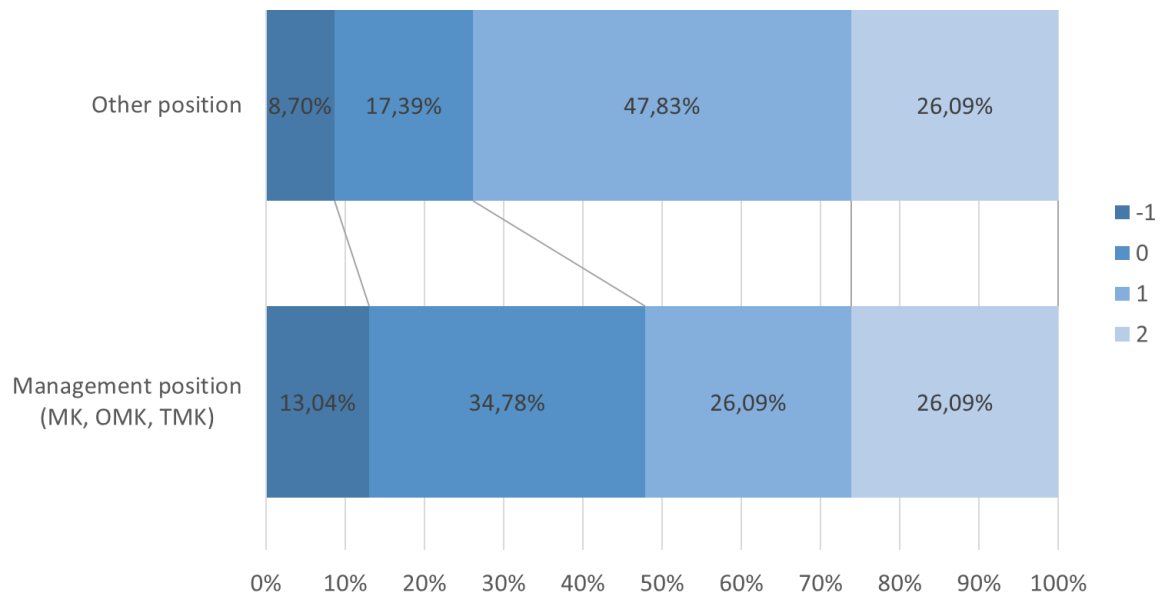


Figure 22 Personal approach towards DT

Summarizing the last two charts of this part, more than 80% of respondents believe that they are well equipped and that all the technical tools are provided. However, as seen from the second chart, only 50% of managers really think that they have enough materials and information about how to use this equipment.

4.2.4 Online / digital cooperation

This part of the questionnaire deals with how satisfied the employees operating in project management at ŠKODA AUTO are with the new form of digital cooperation.

16. Do you prefer online communication or a direct personal contact?

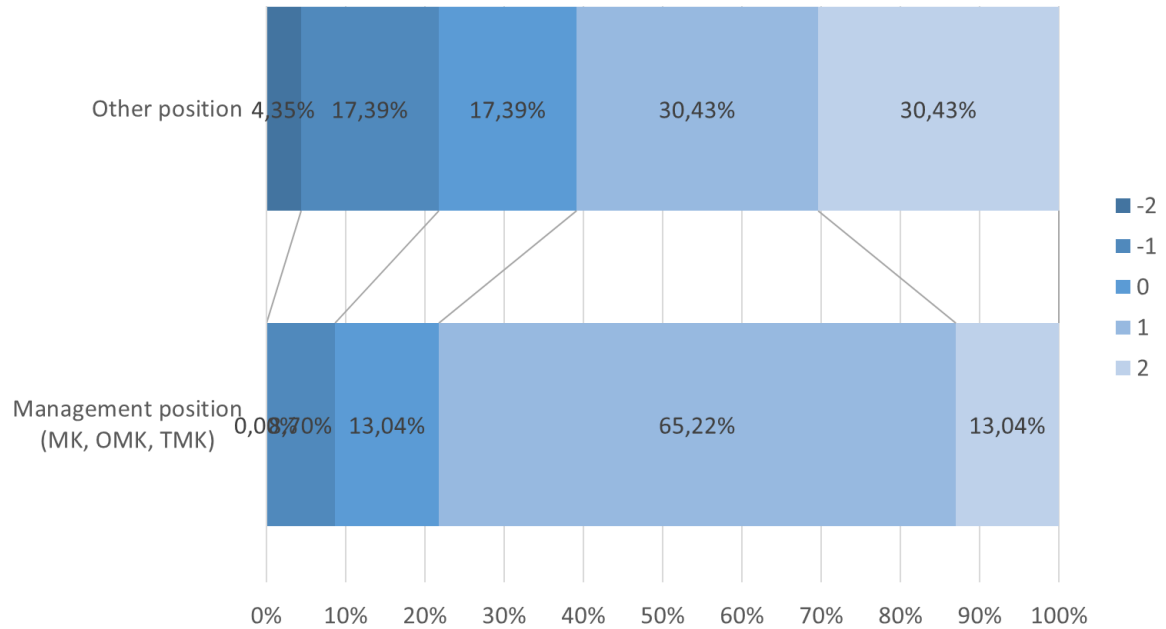


Figure 24 Online cooperation

17. Do you find the online collaboration productive for your work?

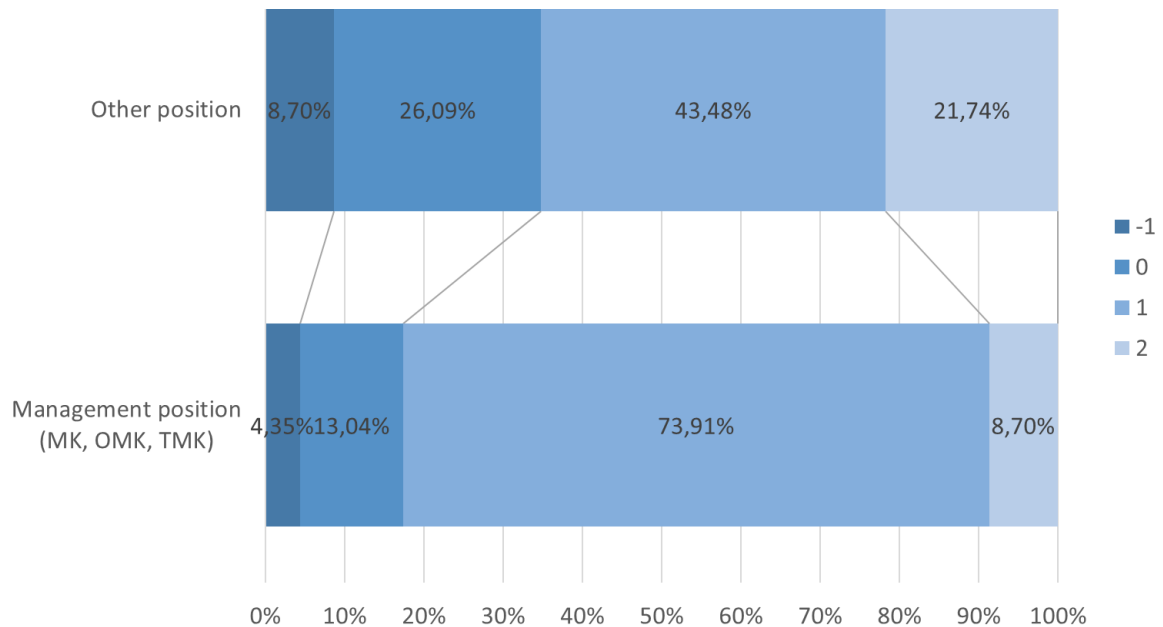


Figure 23 Online cooperation

As can be seen from the first graph of this part, more than 60% of overall amount of respondents still prefer direct communication. However, management and leadership working activities do not consist only of fulfilling the tasks but in the vast majority of direct dealing with people. And that may explain the phenomenon visible from the mentioned chart; i.e. that in comparison of both monitored groups, managers prefer direct contact by nearly 20% more.

In spite of the fact that managers prefer rather direct personal contact, from the obtained “lighter blue” data is clear, that this group is predominantly, from almost 90%, satisfied with the efficiency and productivity of the online collaboration within the project management environment in the company. However, this opinion is shared by approximately 20% less of other employees.

18. Are there some issues/problems in online collaboration?

ANSWER	RESPONSES	RATIO
Lack of physical cues (e.g. face impression, body language)	34	70.8%
Lack of small talk	20	41.7%
Information overload	16	33.3%
Feelings of isolation	13	27.1%
Higher language barrier	6	12.5%
Other...	0	0%

Figure 25 Online cooperation

To the question whether there are any problems or issues in online collaboration, most frequent answer was a “lack of the physical cues”. This finding can be related to the obtained data from the previous Figures; specifically, for instance, to the considerably higher preference of the physical contact over the online collaboration. The other most common answers then included “a lack of small talk” or “an information overload”, as seen from the bar Figure 25 above.

19. What do you find positive on online collaboration?

- (2x) better time efficiency
- It is very time efficient. You don't have to visit many meeting rooms throughout the day. You just sit at your desk.
- Saving of time
- Transparent data available for all members.
- Flexibility
- (2x) time saving
- Fast communication & feedback
- effectiveness, speed, productivity
- Efficient
- Faster communication, faster solution of Problems
- To arrange a meeting and to visit it is easier and quicker (no need to transport)
- We are not limited by place, when communicating online - we can be home or on vacation..... You can connect at any time and from anywhere. Online meetings save a lot of time that would be needed to move between different buildings and rooms.
- (2x) flexibility
- fast, simple,
- Be at home.
- good availability of information
- That everyone can attend.
- More effective, more transmitted information online - 3D etc
- better work
- (2x) time effective
- no time needed for moving from one to another meeting room (or building)
- much higher flexibility in organizing private life and work, quicker results in urgent topics
- Effective time management
- productivity

From the set of answers to the open question what the respondents find positive about online communication were one of the most repeated opinions was the time efficiency, higher flexibility and speed.

4.2.5 Manager, leader and leadership methods

Fifth part of the questionnaire focuses on the position of the manager, leader and leadership styles applied within the company. Operates with the personal experience and examines the perception of the respondents in regards to the new required skills and knowledge. This part also put attention on the differences between the role of the manager/leader and their possible changes in the digital era.

20. Do you see any difference between the terms “manager“ and “leader“?

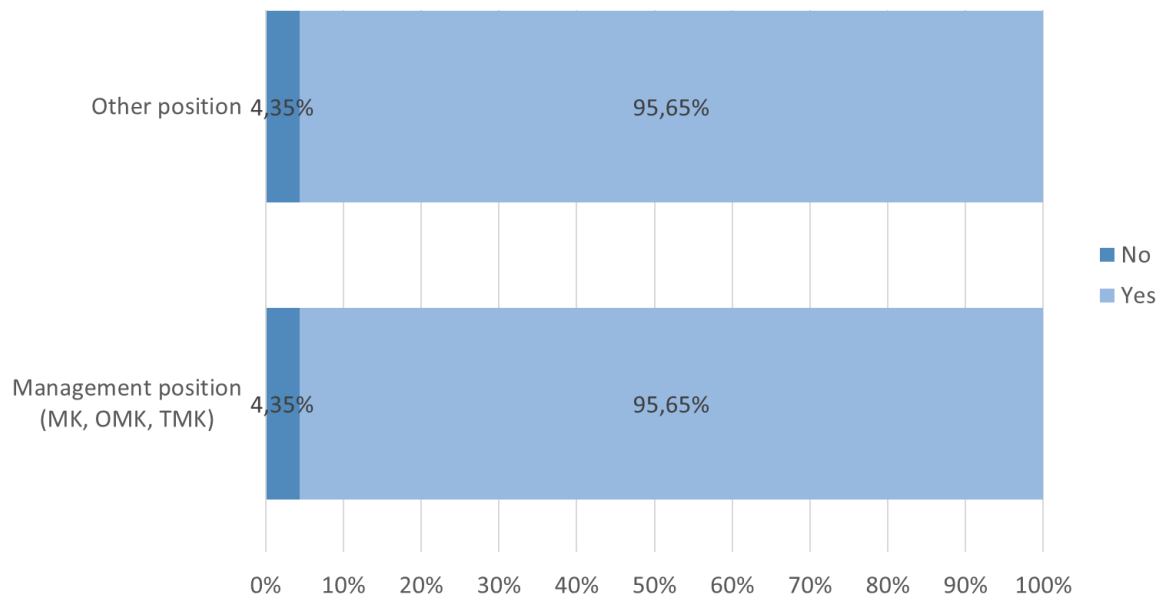


Figure 26 Manager, leader and leadership methods

According to the chart above, the answers of both monitored groups to the question whether the respondents see the difference between terms “manager” and a “leader” seem to be almost uniform. Although, two respondents, each representative of one group, replied the opposite.

21. What type of leadership style have you already experienced while dealing with managers in the company?

ANSWER	RESPONSES	RATIO
Autocratic - "I'm a boss and you'll do what I say!"	30	62.5%
Agile - leadership by example, combines the best of all; innovative, flexible, visionary, supportive, willing to learn, set goals, able to reflect current demands	22	45.8%
Coaching - "Let's try this!", supportive, empowering, helpful and emphatic approach	22	45.8%
Consultative - "Tell me what you think, I'll consider it and then make a decision"	20	41.7%
Authoritative/visionary - "Lets come with me!", natural followership of the leader	20	41.7%
Democratic - "Let's vote on that!"	10	20.8%
Versatile - combining and balancing two opposing approaches, (directive & supportive leadership, execution & strategy, talking & listening, seeing a bigger picture & focusing on details, ...)	10	20.8%

Figure 27 Manager, leader and leadership methods

Figure 27 deals with the personal experience with the variety of different management/leadership styles and shows that most often respondents experienced an autocratic leadership. That means that in total, for the period of their activity in the company, more than 60% of respondents had to deal with an autocratic leader. The second most common leadership style applied in the company is agile and coaching, closely followed by the authoritative/visionary leadership style.

22. Do you think that the role of a manager will change in regards to the process of digital transformation?

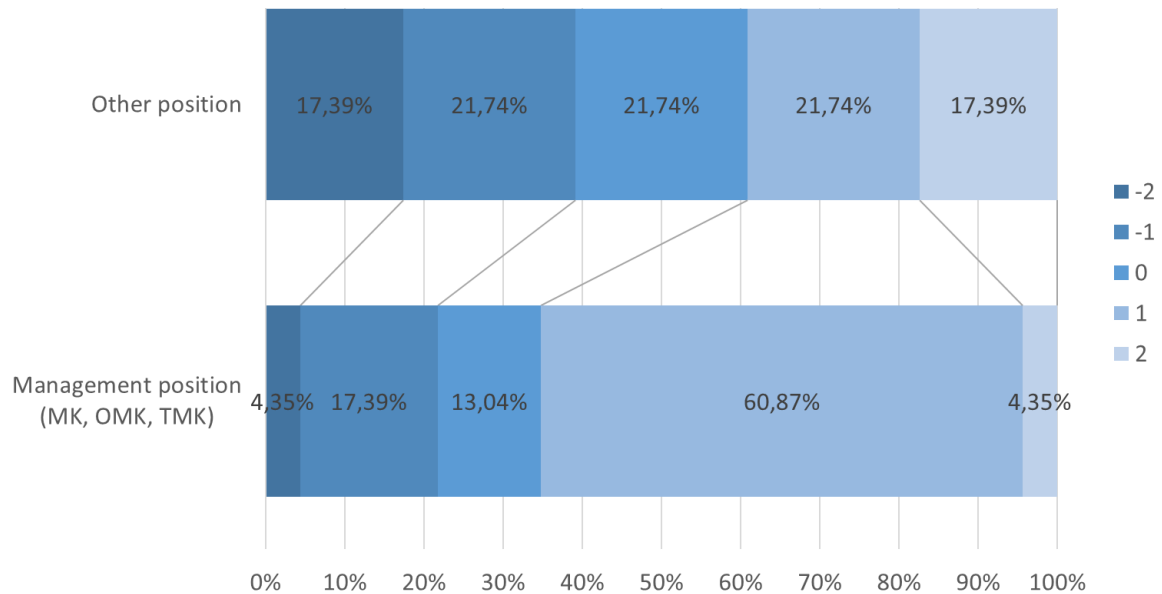


Figure 28 Manager, leader and leadership methods

These data describe the perception of both groups in relation to changes in the role of manager and leader. As seen from the graph, opinions of other employees are evenly spread into the whole spectrum. Whereas 60% hardly think of any change. And the same is true for more than 30% of participants from the ranks of managers. On the other hand, about nearly 70% of the managers think that there is some possibility of change, whereas the urgency for change feel only 4% of them.

23. What are the key skills of a manager in a digital era?

ANSWER	RESPONSES	RATIO
Innovativeness, creativity, flexibility, agility	33	71.7%
Ability to motivate (proper motivation system, clear tasks, recognition and rewarding - "praising in public, correcting in private", ...)	25	54.3%
Technical/digital skills and knowledge reflecting current demands	24	52.2%
Ability to promote an understanding of the digital transformation process and help others to develop new skills and knowledge	21	45.7%
Ability to listen, accept someone else's opinion and learn from others	16	34.8%
Honesty, loyalty, modesty and courage	10	21.7%

Figure 29 Manager, leader and leadership methods

Another interesting data brings this multiple choice question, which aims is to find out what are, according to our respondents, the key skills of the manager operating in the digital age. When on the first place is innovativeness, flexibility, agility and creativity. Ability to motivate and technical/digital skills reflecting the demands of the digital era then share the second place. An interesting finding is in this case the fact that honestly, loyalty a courage or ability to listen, accept someone else's opinion and learn from others find as a key role of the manager in era of DT only around 30% of respondents. According to 45% of respondents, the set of the main managerial skills should include ability to promote and understanding of the process of digital transformation.

4.2.6 Workshops and Schoolings

Last part of the questionnaire is devoted to the employee's experience with the workshops and schoolings focused on a process of digital transformation, currently provided by ŠKODA AUTO. And its consequent relevance in regards to the ability to react on the new demands and requirements of the digital age. Last set of questions also focus on respondent's approach towards such workshops and willingness to attend them.

24. Which of the following workshops have you already attended/signed up for?

ANSWER	RESPONSES	RATIO
Company culture Workshops	19	41.3%
Other...	15	32.6%
Leadership @ ŠKODA	9	19.6%
Lead to Transform	8	17.4%
Agile Leadership Fundamentals	7	15.2%
Learing Journey	3	6.5%
Fast Coaching "Leadership in uncertain times"	2	4.3%
Remote Leadership	1	2.2%

Figure 30 Workshops and Schoolings

The set of workshops offered in the Figure 30 was based on the list of workshops provided to the managers, specifically to MKs, OMKs and TMKs. Therefore, not all respondents can attend all the courses described in the list. And this also partly explains why 30% of respondents (mostly the representatives of the other employees) chose the answer "other" in case of this question. Nonetheless, from the workshops offered in the questionnaire, regular company culture workshops were marked as the most attended ones. Nearly 20% of managers then attended/plan to attend the workshops Leadership @ ŠKODA and Lead to transform workshop.

25. Would you appreciate a chance to attend more of such workshops?

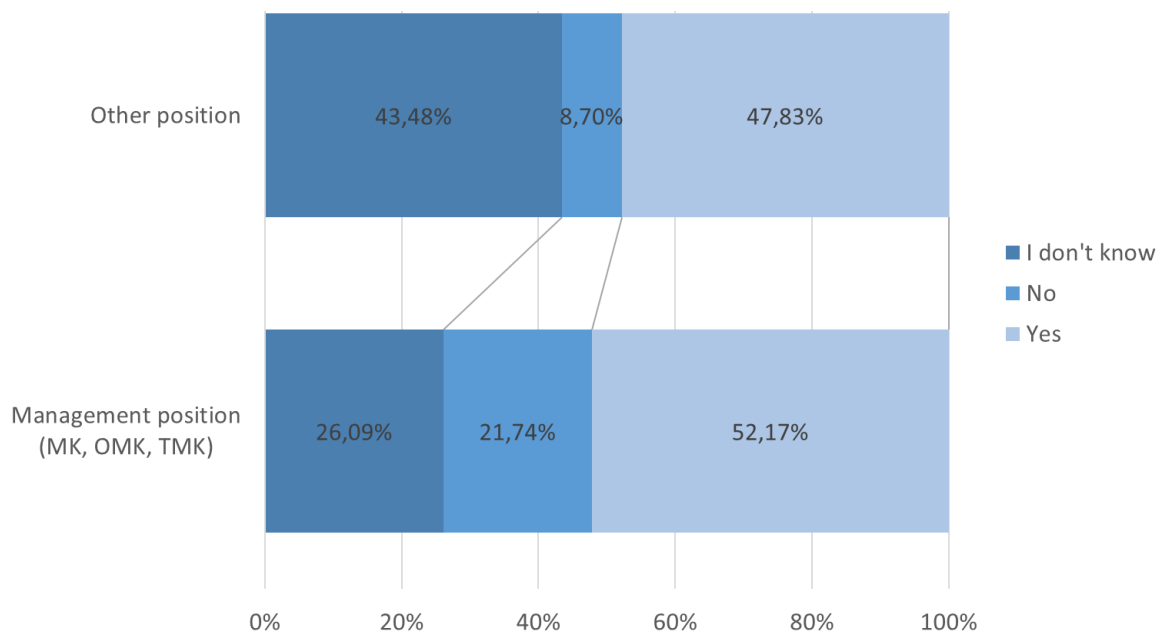


Figure 31 Workshops and Schoolings

To the question whether the respondents would appreciate a possibility to take part of more of such workshops, more than 40% of other employees and 20% of managers did not show any interest. Despite that, about 50% of the representatives of both groups would like to have a possibility to attend a higher number of similar workshops.

26. What type of digital transformation oriented workshops would you be interested in?

ANSWER	RESPONSES	RATIO
ŠKODA Digital Transformation Strategy	22	47.8%
Development of personal skills	20	43.5%
Creativity and Innovations	18	39.1%
Agile Management/Leadership	16	34.8%
Understanding the drivers behind Digital Transformation	14	30.4%
Corporate Culture development	6	13%
Issues and pitfalls of digital transformation and how to face them	4	8.7%

Figure 32 Workshops and Schoolings

From the list of workshops offered in the questionnaire and based on the topic / title of the workshop, respondents would be mostly interested in workshops explaining the company strategy towards the DT, personal skills development workshops or workshops focused on creativity and innovations.

4.3 Questionnaire summary and solution proposal

This chapter of the thesis summarizes the data and information obtained in the questionnaire held in November 2020 within the project management of ŠKODA AUTO a. s.. And provides a comprehensive view of the issue of digital transformation in the monitored company through the eyes of the managers and other employees operating in a project management area. The main aim of this section is therefore to summarize and highlight the key data obtained from the answers of the respondents in order to create a logical conclusion and a proposal for change and future steps towards the possible solution.

As already mentioned, the questionnaire consists of 26 questions and was divided into 6 sections. Where each section aims to point to a different aspect of the digitization process in the ŠKODA AUTO Company. Whereas the main denominator is always a person - in our case a manager or another employee working in project management environment.

4.3.1 Summary of the obtained data

The questionnaire was completed by a total number of 46 people, of which the first half were people in managerial positions and the second half consisted of other employees. 82,6% of respondents were male and 17,4% were female.

The fact that the majority of participants are men is due to the generally low representation of women in project management, as same as in the whole automotive industry. The evenly spread age range of respondents (from 25-60) represents an age-diverse environment of the company. The more interesting finding is then that the employment time of more than 60% of participants is over the 20 years, and in 30% cases between 10 and 20 years. This fact, among others, shows a considerable loyalty and devotion to the company.

In order for a valuable picture of the project management approach towards digital transformation to be complete, it was necessary to ensure the answers not only from managers, but also from other employees working in project management. These two groups, which are frequently compared in the questionnaire, are represented exactly 1: 1 in the survey. Baureihe; the core of the project management, is then represented by almost 70% of an overall amount of respondents.

Regarding to the elementary knowledge of the process of DT, managers seem to be generally more aware than the rest of the employees. However, the perception of the term “digital transformation” as an implementation of new digital technologies in all production and business activities or as a process of technical development; automation and robotization still wins over the other interpretations, such as the culture change, new demands and challenges or the transformed skill-set of HR. In the eyes of the nearly 50% of respondents, digitization is perceived as something what comes “on-top” of the current structure of work, and as something, what they accept without any urge for a greater active participation. This is also related to the fact that up to 60% of respondents – including management, yet do not feel the need for the transformation of leadership processes in relation to DT.

When comparing the personal interest in a transformation process, the data show that the interest from other employee’s side is slightly higher. This can be caused by variety of reasons but the main question, however, is whether it is okay that

employees are, compared to the managers and albeit slightly, more interested in the process of DT. Nonetheless, the influence of DT, whether negative or positive, feel 80% of respondents. The same data however also reveal a crucial finding that 20% of managers either do not feel affected or feel hesitant to answer. Even though the managers are the first ones who should react on the changes and demands, and consequently promote an understanding of these changes further to other employees. Although there is another phenomenon that must be taken into account, and that there is always a certain percentage of people who simply do not want to be affected by any change.

Perception of transparency of the implementation of new digital working methods and technologies is closely related to the general awareness of the process of digitalization ~ digital transformation running in the company. Managers, who, according to the obtained data, have a better insight in the digital processes currently running in their departments might then have a good insight into the level of its transparency. Following that, conversely, managers, generally feel less released in regards to the implementation and use of the new digital technologies, and even a certain percentage of this respondent group feel stressed. Even so, the approach towards the technical part of the DT is mostly positive, as nearly 90% of the total number of respondents see the new technologies beneficial for their work. Moreover, the technical support from the company side (in form of tools and equipment) is in this regard also sufficiently provided. However, only ½ of managers think that they have enough materials and information about how to use this equipment.

In case of an online communication, the data obtained in the questionnaire may differ from the data that would have been obtained in the pre-pandemic era. However, in this case, it is a move for the better. The online communication currently predominates over the “normal”; direct or physical one and this fact is closely related to the development of digital communication skills and knowledge of the employees. Majority of managers are moreover satisfied with the efficiency and productivity of the online collaboration. This opinion, on the contrary, is shared by approximately 20% less of other employees.

The direct personal contact is however, in comparison of both monitored groups, more preferred by the managers. The logical reason for these results is the fact that management activities do not consist only of the fulfilling the tasks and computer work but mostly of dealing and cooperating with other people. Thus, the majority of respondents identified a lack of physical cues or a lack of small talk as the ones of the main issues of online communication. While these results also refer to the fact that the need for a physical contact is significantly important in project management environment. What the respondents, on the other hand, find positive about online communication is time efficiency, higher flexibility and speed. Another most frequent advantage mentioned is then a comfort to attend meetings anytime and anywhere, without the need to commute to the physical meeting rooms.

From the answers obtained in the questionnaire, the perception of the difference of the terms “leader” and “manager” is practically almost 100% uniform. However, a couple of respondents; one manager and one representative of other employees claim that there is no difference between these two terms. Whereas this answer does not necessarily mean that the respondents are not aware of the meaning of these terms. Moreover, if we build the assumption on the theoretical part of this thesis, there is also a possibility of perception of the manager and the leader as one person, combining the attributes of both. And exactly this perception reflects the current demands on the managers going through the process of digital transformation. However, the real urgency for change in the role of the manager/leader feel only 4% of responded managers. While more than 60% of other employees and 30% of managers hardly think of any change.

The change in the role of the manager is closely related to the leadership style. According to the obtained data, 60% of the total number of respondents, regardless of the time spent in the company, has dealt with autocratic leader. The second most commonly experienced leadership style is agile and coaching, followed by the authoritative leadership. According to more than 50% of managers and other employees, the basic leadership / management skills and knowledge of a manager in the process of digital transformation include flexibility, agility, innovation and creativity, together with technical / digital skills and the ability to motivate. 20% less

respondents consider as a key skills ability to listen, honesty, loyalty and courage. 21 respondents out of a total of 46, consider the basic ability of a manager at the time of digitization to be mainly the ability to promote and understanding of the process of digital transformation and help others to develop new required skills and knowledge.

The opportunity to attend more digitalization-oriented workshops and thus develop their personal skills would use about ½ of the representatives of both responded groups. However, a high percentage; specifically 40% of other employees and 20% of managers would not be interested in such opportunity. However, in addition to workshops that respondents (mostly managers) have already had the opportunity to attend, would the respondents mostly appreciate the possibility to join workshops focused on creativity, innovations and development of personal and digital skills.

4.3.2 Proposal of possible solutions

Some of the proposals and possible ways how to perceive and handle changes caused by the digital transformation process were already described in the previous chapter. This chapter, among describing and analysing the results and highlighting the important information from the survey, also identifies a couple of gaps and issues in perception of respondents in relation to digital transformation. The following chapter aims to distinguish the main issues and provide a possible proposal to improve the status quo.

The first issue concerns a lack of awareness of the terms digitization and digital transformation. Although 80% of surveyed managers claim that they are aware of what DT stands for, from another obtained data is clear that their ability to pass on this knowledge is quite low. Additionally, the situation is even more urgent, considering the fact, that a large number of managers yet do not perceive the ability to promote an understanding of the process of DT as important. In spite of that in this regard, managers are among the first who should be able to reflect the changes caused by digitization and further spread their knowledge to other employees.

The second issue is still widely applied and used traditional autocratic leadership style. As already mentioned, more than 60% of respondents has dealt with an

autocratic leader. ŠKODA AUTO, as a company with more than 125 years of history, still has, despite its innovative and progressive spirit, a very traditional organizational structure. And this fact often blends into the applied leadership style. However, in a process of digitalization, the autocratic approach of leaders may no longer be effective.

The third issue is the traditional perception of the role of the manager and his set of skills and knowledge. This topic is actually closely related to the topic of leadership. As only a manager / leader who masters the proper necessary skills is able to manage others. Which, moreover, applies not only to the period of digitalization. Nevertheless, due to changes caused by digital transformation, the role of the manager has also changed. In order for a manager to be successful in today's ever-changing world of digitalization, in addition to managerial skills, technical knowledge, and agile management, he must take on the attributes traditionally associated with leader.

One of the possible ways how to improve the current state and maybe also solve the problems and issues described above, are digital transformation-oriented courses for employees. ŠKODA AUTO currently offers a wide range of different workshops and courses aimed at all professional divisions; from installers to the top management. When it comes to the process of digital transformation, the company provides variety of valuable schoolings dedicated to personal development, creativity, innovation, leadership styles in a period of transformation, or current changes in corporate culture. However, workshops focused only on the process of digitalization in the company are not yet provided.

The first step in realization of this training should then be a compilation a questionnaire that identifies the specific needs and requirements of individuals for the content of the workshop. However, following the answers from the empirical research, it is already possible to create a pilot set of 3 basic workshops focused on the digitization process in the company, reflecting the main issues described above:

1. ŠKODA Digital Transformation Strategy,
2. Leadership during the Digital Transformation,

3. Key skills of the manager in the process of DT.

The first type of workshop would acquaint the participants with the general concepts of digitization and digital transformation and introduce them the corporate strategy in this regard. The second type would focus on the most effective leadership styles in the digital transformation process and the main content point would be to get acquainted with various leadership styles effective in the process of DT, together with its practical application. The third workshop would then aim to transform the traditional perception of the role of the manager and his skills and knowledge into the new “digital version”. The main outcome of this workshop would be the manager being able to effectively provide an understanding of the process of the DT and help others to develop the new skills and knowledge required in this process. The content of the workshops should ideally focus on information relevant to the current individual group of participants i.e. to the specific type and managerial level of the professional division from which the participants come.

However, in spite of the survey results and the fact that the interest in possibility to improve the digitalization-relevant knowledge and skills was more than 50% of the total monitored sample, the main impulse for any change must come from the outside of the department. Which is, in this particular case, the top management of the company.

The main proposal is then to set the targets and create a clear learning strategy in relation to the digital transformation. While this strategy would include:

- Clear targets / goals and yearly target plan
- Annual frequency of participation in courses,
- Obligation to participate for all management levels (including the board level) as same as for all management employees,
- System of gradation of the training content in relation to the managerial and other level of employees,
- Data evaluation and analysis system.

Conclusion

From the theoretical part, devoted to the terms description and their impacts on society and organisations, can be seen that the process of DT affects a wide range of these subject, including the individuals operating in these companies. This part also describes the changes in the role of the manager and the leadership styles, and shows that with the Digital transformation the current leadership methods proofing to be less effective and that the new leadership models are necessary.

The practical part of the thesis focuses on digital transformation in the monitored company, with the main focus on HR; managers and other employees, in the project management area in ŠKODA AUTO. While an explicit aim is to define and evaluate the status quo of this area in regards to DT. Analyse the general attitude towards the digital transformation, personal approach and overall readiness of employees towards the changes caused by the process of DT in the company. The main aim of the practical part of the thesis is therefore to understand how ŠKODA AUTO, and especially the project management department, is dealing with the digital transformation.

The research, contained in the practical part of the thesis, was conducted in a form of a questionnaire and shared with the PM employees and managers in November 2020. Whereas the findings of the research brought valuable data and also the feedback from the respondent's side was very positive. Furthermore, the participation was above expectations and even a high number of managers were willing to actively participate.

In conclusion, the main findings from the research include the following:

- The level of awareness of the process of DT differs in regards to the non/management position,
- in terms of perception of the terms “digitalization”/”digital transformation”, processes related to the technical development still win over the changes in the culture, transformation of the skill set of the managers or changes in the leadership style,
- 20% of responded managers do not feel affected by digital transformation,

- managers prefer direct personal contact over the online communication, although the online collaboration in the company seems to be very efficient,
- 90% of respondents find the new technologies and digital tools beneficial for their work,
- the real urgency for change in the role of the manager feel only 4% of the responded managers,
- autocratic leadership is still the most common leadership style used in the company,

Taking into account the theoretical and practical part of this thesis, my conclusion is that the digital transformation strategy which is ŠKODA AUTO currently following is a good step in the right direction, although so far does not seem to reach far enough. From the point of view of technical and system background, the company seems to be sufficiently prepared for the process of digital transformation, however, this process is not limited only to these systemic and technological changes but is even primarily about understanding the potential and possibilities of using these digital tools, systems and technologies.

Directing a separate (PM) department with the digital transformation can be then a first step. However, creating the awareness and urgency has to come from the top management. And thus my proposal is to:

- Include targets in regards to digital transformation in the yearly target plans for each manager and employer, starting with the board members,
- raise awareness of the DT; organize learning journey to other companies that deal with the transformation more in detail,
- add further digital transformation oriented training courses and workshops for both groups, employees and managers.

To sum it up, ŠKODA AUTO seems to understand that certain steps are necessary in order to be able to deal with the process of DT. But based on the results of the empirical research, it can be concluded that these steps are, yet, not reaching far enough. Therefore, to ensure a successful transformation and a process of change,

this topic needs to be on the top of the agenda of the top management, and its urgency must be respectively communicated. As if there is no change in the current approach, the fate of Nokia could also repeat itself in the automotive industry.

Being a part of the project management team in ŠKODA AUTO and conducting this survey among the various team members across the company allowed me veracious insights. As the project management of the new car projects is mostly focused on achieving the required financial results and also keeping the various deadlines, there seem to be hardly any room for looking up and thinking about the implications of digital transformation. And therefore it is not surprising that digital transformation is not on the top of the priority list of the PM managers and employees. However, as the core of the PM, moreover dealing with the future products that will hit the market in the time horizon of 4-5 years, they are the first ones who should be able to react on the DT changes which will surely affect their work in the future.

Allowing and offering these resources is, however, in the responsibility of the top management and board members of the company. In addition, as long as the DT is not properly understood and communicated in its importance and urgency at this level, it is unlikely that it will get the necessary importance on any other level, including the project management one. So in my opinion, in order for a company to be able to effectively face the process of digital transformation, this is the main leverage that needs to be taken at the moment.

References

- Anantatmula, Vittal S. 2010. Project Manager Leadership Role in Improving Project Performance. s.l. : Engineering Management Journal, 2010. Vol. 22.
- ANDONOVA, Yanita. 2020. Chapter 3. Algorithmic Management, Organizational Changes. London, Great Britain : ISTE Ltd, 2020. Digitalization of Society and Socio-political Issues 1, Digital, Communication and Culture . ISBN: 978-1-78630-475-9.
- Armstrong, Michael. 2007. Řízení lidských zdrojů: nejnovější trendy a postupy. Prague : Grada, 2007. Vol. 10. ISBN: 978-80-247-1407-3.
- Armstrong, Michael and Stephens, Tina. 2008. Management a leadership. Prague : Grada, 2008. ISBN: 978-80-247-2177-4.
- Association for Project Management. 2020. Skills you need to become a project manager. Princes Risborough : © 2020 Association for Project Management, 2020.
- Bedrnová, Eva, Jarošová, Eva and Nový, Ivan. 2012. Manažerská psychologie a sociologie. Prague : Management Press, 2012. ISBN: 978-80-7261-239-0.
- Benioff, Marc. 2019. Digital Trust and Transformation. A Conversation with Marc Benioff. Interview, Davos : World Economic Forum, 10 February 2019.
- Bennis, Warren G. 2001. Staří psi a nové triky, aneb, O tvořivosti a spolupráci. Prague : Management Press, 2001. ISBN: 80-7261-045-7.
- Boynton, Andy. 2016. Nine Things That Separate The Leaders From The Managers. [Forbes.com] William Bole, Boston : Forbes, 2016.
- Bradley, Joseph, et al. 2015. The Digital Vortex How Digital Disruption Is Redefining Industries. s.l. : © 2015 Global Center for Digital Business Transformation, June 2015.
- Corbett, Martin. 2009. Technology. [book auth.] Andre Spicer Edited by: Philip Hancock. Understanding Corporate Life. London : SAGE, 2009.
- Corporate Strategy and Innovation management, ŠKODA AUTO a.s. 2016. ŠKODA Strategy 2025, Corporate Strategy ŠKODA AUTO. eportal.skoda.vwg. [Online]

2016. [Cited: 15 09 2020.]

https://eportal.skoda.vwg/b2eportal/documents/2492424/4981118/Strategie+2025_20191015_EN.pdf/2610cfc3-7fc9-7cde-41b9-2fa58678bf13?t=1573206312267.

Cotlearova, Xenia. 2020. A Beginner's Guide to Digital Transformation. Amsterdam : amplifyanalytix.com, 2020.

Danish Institute of Industry 4.0. 2016. Industry 4.0, An Introduction to Industry 4.0. Copenhagen : Danish Institute of Industry 4.0, 2016.

Divíšek, Daniel. 2018. Průmysl 4.0 v Automotive Bakalářská práce. [thesis.cz] Hradec Králové : Univerzita Hradec Králové, Fakulta informatiky a managementu, Katedra ekonomie, 17 August 2018.

Donelly, James H., Gibson, James L. and Ivancevich, John M. 1997. Management. Prague : Grada Publishing, 1997. p. 821. ISBN: 807-169-42-23.

Drucker, Petr Ferdinand. 2000. Výzvy managementu pro 21. století. Praha : Management Press, 2000. p. p.126. ISBN: 80-7261-021-X.

Fitzgerald, Michael, Kruschwitz, Nina and Bonnet, Didier. 2013. Embracing Digital Technology: A new strategic imperative. Massachusetts : MIT Sloan Management Review, 2013.

Folta, Jaroslav. 2019. Adaptation of the employees to the digitalization in an automotive industry. Mladá Boleslav : ŠKODA AUTO University, 2019.

Geissbauer, Reinhard, et al. 2018. Global Digital Operations Study 2018 Digital Challengers. [Strategy&PwC] s.l. : Strategy&, 2018. How industry leaders build integrated operations ecosystems to deliver end-to-end customer solutions.

George, Éric. 2020. Digitalization of Society and Socio-political Issues 1. [ed.] Jean-Charles Pomerol. [prod.] Inc. ISTE Ltd and John Wiley & Sons. London, Great Britain : ISTE Ltd 2019, 2020. Digital, Communication and Culture. ISBN: 978-1-78630-475-9.

Gibson, Rowan. 2000. Nový obraz budoucnosti: Rethinking the future : přední osobnosti světového managementu a sociálního myšlení o budoucnosti podnikání,

konkurence, řízení a trhu. Prague : Management Press, 2000. str. p. 25. Sv. 2. ISBN: 80-7261-036-8.

Gierlich-Joas, Maren, Hess , Thomas and Neuburger, Rahild. 2020. More self-organization, more control—or even both? Inverse transparency as a digital leadership concept. [SpringerLink] 29 10 2020. Business Research.

Herman, M., Pentek, T. and Otto, B. 2016. Design principles for industrie 4.0 scenarios. [49th Hawaii International Conference on System Sciences (HICSS)] Koloa, HI, USA : 49th Hawaii International Conference on System Sciences, IEEE, 2016. Electronic ISBN:978-0-7695-5670-3.

Herold, Gert. 2016. Leadership in the Fourth Industrial Revolution. Prague : © Stanton Chase, 2016.

Holeček, Petr. 2020. ŠKODA Space - Information. ŠKODA Space. [Online] ŠKODA AUTO a.s., 02 11 2020. [Cited: 08 11 2020.] <https://eportal.skoda.vwg/b2eportal/group/innovation-management/innotoolbox-new>.

Hrstka, Jaroslav. 2016. Jak big data transformovat na smart data. Sdělovací technika. 5, 2016, Sv. 14-16, ISSN 0036-9942.

Illanes, Pablo, et al. 2018. Retraining and reskilling workers in the age of automation. s.l. : © 2018 McKinsey & Company, January 2018.

Jancuska, Michal. 2020. Strategie 2025. ŠKODA Space. [Online] ŠKODA AUTO a.s., 06 01 2020. [Cited: 29 08 2020.] <https://eportal.skoda.vwg/b2eportal/group/general-information/strategie?zx=2y72nayfdy0k>.

—. 2020. Strategy 2025. ŠKODA Space. [Online] ŠKODA AUTO a.s., 06 01 2020. [Cited: 29 08 2020.] <https://eportal.skoda.vwg/b2eportal/group/general-information/strategy?zx=2y72nayfdy0k>.

Jiwat, Ram. 2019. Project Manager 2.0: The proposed skills set. [© IPMA 2019] Amsterdam : International Project Management Association, 2019.

Kolektiv autorů. 2017. Průmysl 4.0, Vzdělávání 4.0, Práce 4.0 a Společnost 4.0: učební text. Prague : Sondy, 2017. ISBN 978-80-86809-23-6.

Kostron, Achim, Brauchle, Andreas and Hanisch, Bastian. 2016. Rise of agile in automotive r&d. [Horváth & Partners Management Consultants] [ed.] Horváth GmbH. Stuttgart : Horváth GmbH, 2016.

Langley, Mark A. 2018. PMI's Pulse of the Profession In-Depth Report, The Project Manager of the Future, Developing Digital-Age Project Management Skills to Thrive in Disruptive Times. Newton Square : Project Management Institute, 2018.

Mařík, Vladimír et. al. 2016. Průmysl 4.0 Výzva pro Českou republiku. Prague : Management Press, 2016. ISBN: 978-80-7261-440-0.

Moira, Alexander. 2019. What is a project manager? The lead role for project success. s.l. : © 2019 IDG Communications, Inc., 26 05 2019.

Murray, Alan. 2010. The Wall Street Journal Essential Guide to Management Lasting Lessons from the Best Leadership Minds of Our Time. New York : Harper Business, 2010. str. 240. ISBN: 9780061840333.

Neubauer, Rainer , Tarling, Andrew and Wade, Michael. 2017. Redefining Leadership for a leadership age. [The Global Center for Digital Business Transformation, metaBeratung is a Management and HR-Consultancy, IMD] s.l. : © 2017 IMD International Institute for Management Development and metaBeratung GmbH, 2017.

Nicoletti, Bernardo. 2012. Lean and Digitize An Integrated Approach to Process Improvement 1st Edition. London : Routledge, 2012. str. 150. ISBN: 978-1409441946.

Ondráček, Petr. 2020. IMX - Innovative Mindset Index. Prague : ŠKODA AUTO a.s., 2020.

Owen, Jo. 2006. Jak se stát úspěšným lídrem: leadership v praxi. Prague : Grada, 2006. str. p.6. ISBN: 80-247-1726-3..

Pavlica, Karel and Isaacs, Cory. 2013. Kultura, podnik a management pro kombinovanou formu studia. Mladá Boleslav : ŠKODA AUTO VYSOKÁ ŠKOLA o.p.s., 2013. p. 188. Vol. 1. ISBN: 978-80-87042-57-1.

Pavlica, Karel, Matoušková, Ingrid and Kaiser, Robert B. 2019. Metodika rozvoje manažerů pro digitalizovaný průmysl - proposal o a methodological framework. Socioekonomické a humanitní studie. 2019, Vol. 1, 9, pp. 19-44.

Petr Holeček. 2020. ŠKODA Space. Innovation Management; Inno Toolbox. [Online] ŠKODA AUTO a.s., VWG, 02 11 2020. [Cited: 05 11 2020.] <https://eportal.skoda.vwg/b2eportal/group/innovation-management/innotoolbox-new>.

Plachá, Jarmila. 2017. Vision of a digital future. skoda-storyboard.com. [Online] ŠKODA AUTO a.s. 2020, 04 05 2017. [Cited: 15 09 2020.] <https://www.skoda-storyboard.com/en/innovation/vision-of-a-digital-future/>.

Project Management Institute. 2020. PMI Talent Triangle ®. Newton Square : ©Project Management Institute, Inc., 2020, 2020.

Salesforce. 2018. Getting Started With Digital Transformation. [Salesforce.com] San Francisco : salesforce, 2018.

Swaminathan, Anand. 2018. Digital Transformation — What It Takes. Digital Transformation — What It Takes. Newton Square : Google Play Music, PMI.org/Podcast, 7 February 2018.

ŠKODA AUTO a.s. 2020. Annual Report 2019. [ŠKODA Storyboard] Mladá Boleslav : ŠKODA AUTO a.s., 2020, Tř. Václava Klementa 869, 293 01 Mladá Boleslav, Czech Republic, 2020. Identification No: 00177041.

ŠKODA AUTO a.s. 2016. Press Release, ŠKODA Digital Lab: Future workshop for new digital technologies and solutions. [ŠKODA Media Services, skoda-storyboard.com] Mladá Boleslav : ŠKODA AUTO a.s., 24 10 2016.

—. 2020. ŠKODA AUTO Výroční zpráva 2019. [skoda-storyboard.com] Mladá Boleslav : ŠKODA AUTO a.s., 2020, Tř. Václava Klementa 869, 293 01 Mladá Boleslav, Česká republika, 2020.

The Role of E-Skills in Developing Sustainable Organizations and E-Activities in the New Digitized Business World. Duică, Constantin, et al. 2020. 8, Targoviste : MDPI
Mircea Constantin Duică, Nicoleta Valentina Florea,, 22 April 2020, Sustainability 2020, Vol. 12.

Toor, Shamas-ur-Rehman and Ofori, George. 2008. Leadership versus Management: How They Are Different, and Why. [© 2008 ASCE] 2, Singapore : s.n., 2008. Vol. 8.

Turk, Wayne. 2007. Manager or Leader. Belvoir Road Fort Belvoir : Defense AT&L, 2007.

Udo, Nathalie and Koppensteiner, Sonja. 2004. What are the core competencies of a successful project manager? [PMI® Global Congress 2004—EMEA] Prague, Czech Republic : Project Management Institute, 2004. Career Development, Skill Development.

van Dam, Nick, Benson-Armer, Richard and Otto, Silke-Susann. 2015. Do your training efforts drive performance? s.l. : © 1996-2020 McKinsey & Company, 2015.

Veber, Jaromír. 2018. Digitalizace ekonomiky a společnosti výhody, rizika, příležitosti. Prague : Management Press, 2018. ISBN 978-80-7261-554-4.

Vey, Karin, Fandel-Meyer, Tanja and Zipp, Jan S. 2017. Learning & Development in Times of Digital Transformation: Facilitating a Culture of Change and Innovation. [online-journals.org] s.l. : International Journal of Advanced Corporate Learning (iJAC), 10 03 2017. ISSN: 1867-5565.

Wills, Stefan and Barham, Kevin. 1994. Being an International Manager. 1. s.l. : European Management Journal, 1994. pp. 49-58. Vol. 12.

Wokurka, Guido, et al. 2017. Digital Culture: Why Strategy and Culture Should Eat Breakfast Together. s.l. : Springer, Cham, Springer International Publishing, Switzerland 2017, 2017. ISBN: 978-3-319-40967-2.

World Economic Forum. 2016. Executive Summary: The Future of Jobs: Employment, Skills and Workforce Strategy for the Fourth Industrial Revolution. [www.weforum.org] Geneva : World Economic Forum, 2016.

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Appendix 1 Digital Transformation and Human Resources Survey

Digital Transformation and Human Resources

1 Please tell a bit about yourself - What is your gender?

Question instructions: *Select one answer*

- Female Male Other

2 How old are you?

Question instructions: *Select one answer*

- 25-30
 31-35
 36-40
 41-45
 46-50
 51-55
 56-60
 60+

3 How long have you been working for Skoda?

Question instructions: *Select one answer*

- 1-2 years
 3-5 years
 5-10 years
 10-20 years
 more than 20 years

4 In which department are you currently working?

Question instructions: *Select one answer*

- Model line/ Baureihe
 Quality
 Sales and Marketing

- Purchasing Technical development
 Production Finance

5 What is your position?

Question instructions: *Select one answer*

- Management position (MK, OMK, TMK) Other position

6 Do you know what the term "digital transformation" stands for?

Question instructions: *Would you be able to describe it to someone else?*

1 2 3 4 5

No, not at all Yes, absolutely

7 What is the first thing that comes up to your mind hearing "digitalization" or "digital transformation" in ŠKODA AUTO?

Question instructions: *Select one or more answers*

- Implementation of digital tools in technical development - automation, robotization, software development, etc.
- New challenges followed by new opportunities, possibilities and benefits
- Implementation of new (online) digital tools and technologies in all areas - including management
- I don't have any specific idea
- Transformation of working methods - agile leadership/management, new business models, simplification of working processes
- Culture change; new skills and knowledge requirements, mindset change, changes in the working environment
- Other...

8 Are you personally interested in the process of digital transformation in ŠKODA AUTO?

1 2 3 4 5

No, I'm not Yes, I'm

9 Do you personally feel affected by the digital transformation in the company?

1 2 3 4 5

No, I don't Yes, I do

10 Based on your impression, how is your department dealing with the process of digitalization?

1 2 3 4 5

Passively Actively

As a risk As an opportunity

Hidden Transparent

11 Are you aware of any implementation of new digital technologies and tools in your department?

Question instructions: *(New Applications, Communication Tools, etc.)*

1 2 3 4 5

No, I'm not Yes, I'm aware

12 Are these new digital technologies more beneficial and helpful or rather annoying and difficult to handle for you?

- Beneficial and helpful
- More beneficial and helpful
- More annoying and difficult to handle
- Annoying and difficult to handle

13 How does the increasing implementation of the new technologies and tools make you feel?

1 2 3 4 5

Anxious Excited

Hesitant Curious

Stressed Released

14 Are you equipped enough in order to be able to use the new communication tools?

Question instructions: *With laptop, headphones, microphone, loudspeaker, etc.*

1 2 3 4 5

No, not at all Yes, absolutely

15 Do you have enough information/materials about how to use new technologies?

1 2 3 4 5

No, I don't Yes, everything is provided

16 Do you prefer online communication or a direct personal contact?

1 2 3 4 5

Online communication Direct personal contact

17 Do you find the online collaboration productive for your work?

1 2 3 4 5

No, not at all Yes, very productive

18 Are there some issues/problems in online collaboration?

Question instructions: *Select one or more answers*

- Information overload
- Higher language barrier
- Lack of physical cues (e.g. face impression, body language)
- Feelings of isolation
- Lack of small talk
- Other...

19 What do you find positive on online collaboration?

Question instructions: *Type an answer*

Do you see any difference between the terms “manager“ and “leader“?

Question instructions: *Select one answer*

- Yes No

20 What type of leadership style have you already experienced while dealing with managers in the company?

Question instructions: *Select one or more answers*

Autocratic - "I'm a boss and you'll do what I say!"

Coaching - "Let's try this!", supportive, empowering, helpful and emphatic approach

Authoritative/visionary - "Lets come with me!", natural followership of the leader

Agile - leadership by example, combines the best of all; innovative, flexible, visionary, supportive, willing to learn, set goals, able to reflect current demands

Democratic - "Let's vote on that!"

Versatile - combining and balancing two opposing approaches, (directive & supportive leadership, execution & strategy, talking & listening, seeing a bigger picture & focusing on details, ...)

Consultative - "Tell me what you think, I'll consider it and then make a decision"

22 Do you think that the role of a manager will change in regards to the process of Digital Transformation?

1 2 3 4 5

No, not at all Yes, significantly

23 What are the key skills of a manager in a digital era?

Question instructions: *Select one or more answers*

Ability to listen, ability to accept someone else's opinion and learn from others

- Ability to motivate (proper motivation system, clear tasks, recognition and rewarding - "praising in public, correcting in private",...)
- Innovativeness, creativity, flexibility, agility
- Technical/digital skills and knowledge reflecting current demands
- Other...
- Honesty, loyalty, modesty and courage
- Ability to promote an understanding of the digital transformation process and help others to develop new skills and knowledge

24 Which of the following workshops have you already attended/signed up for?

Question instructions: *Select one or more answers*

- Leadership @ ŠKODA
- Learning Journey
- Other...
- Agile Leadership Fundamentals Company culture Workshops
- Lead to Transform
- Remote Leadership
- Fast Coaching "Leadership in uncertain times"

25 Would you appreciate a chance to attend more of such workshops?

Question instructions: *Select one answer*

- Yes No I don't know

26 What type of digital transformation oriented workshops would you be interested in?

Question instructions: *Select one or more answers*

- Understanding the drivers behind Digital Transformation
- ŠKODA Digital Transformation Strategy
- Development of personal skills
- Issues and pitfalls of digital transformation and how to face them
- Agile Management/Leadership

- Corporate Culture Development
- Creativity and Innovations
- Other...

ANNOTATION

AUTHOR	Barbora Rosová		
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NUMBER OF PAGES	79		
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SUMMARY	<p>The bachelor thesis topic is devoted to the process of digital transformation and its effect on human resources in project management in the specific company, whereas the thesis is divided into two main parts.</p> <p>Theoretical part aims to distinguish and describe the main terms, such as digitalization, digital transformation or industry 4.0, with the main focus on its general impact on society, organisations and individuals working in these organizations.</p> <p>Objective of the practical part is to provide an insight into the problematics of the digital transformation and its impact on human resources operating in project management area within the monitored company. Analyse the level of awareness of the transformation process, identify and evaluate the approach of the managers and other employees towards the changes caused by digital transformation, and provide possible solutions for improvement.</p>		

KEY WORDS	Digital Transformation, Human Resources, ŠKODA AUTO, Project Management
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