Attitudes and Perceptions of Employees in the Process of Digital Transformation

of Institution Case Study

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Abstract: Based on the analysis of the current situation, the authors deal with human resources in the digital transformation process of selected large institution operating in the transport sector. The focus is on the understanding how employees work brings the right solutions inside the business model. On the basis of the findings, we tried to verify the research assumptions set on the basis of the importance of technologies during the digital transformation. Human resources must play an active role in adopting the principles of digitalization and must be part of the adoption of new technologies in the workplace. Their participation must be active and should not only act as an audience, as is also apparent from the analysis of the state of play. Employees should be committed to working with their institution to define the importance of digital transformation and its impact on the business.

Key words: digital transformation; business model; employees; attitudes; perception

JEL codes: M15, M54, O33

1. Introduction

With the advancement of digital technology, systems, processes and procedures that have been used so far have been disrupted in many businesses and across industries. The technological revolution is fundamentally changing the way we live, work and communicate. In its measure, scope and complexity, this transformation is essential. The response to it must be integrated and comprehensive, involving all stakeholders on a global basis, from the public to the private sector, academia and civil society (Gregor et al., 2006; Corejova, Al Kassiri, 2015). The first definition by Don Tapscott, 1995, discussed how the Internet is changing the basic principles of an economy that goes from production to sales. Mesenbourg, 2001 described three basic parts of the digital economy: infrastructure, e-business processes, and e-business. is The use of extensive data is another characteristic feature of the digital economy. It is a collection of dispersed, aggregated, stored and analysed data that adds value by increasing transparency and improving performance and decision management, and through developing tailored products or services or even new business models (Alstyne et al., 2016; McQuivey, 2014; Ostevalder & Pigneur, 2010).

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Choosing the right business model for the company is a challenging process. Kastelle (2012) argues that the focus of every entrepreneur in designing a business model should be to answer basic questions:

- How to bring lasting value to your customers;
- How to ensure value that will keep us on the market in the future.

Charles Baden-Fuller and May S. Morgan (2010) analyze a number of business model definitions in a special edition of the Long Range Planning journal. They divided theories into three groups. The first group compares business models and patterns that divide them according to business typology. The second group of classification is to be used for academics because it compares the existence of business models to organisms in biology and mathematical models. As biologists explore individual organisms, they try to find out the most detailed information about them, so economists try to analyze how some companies have successfully or unsuccessfully developed their business model. The third group describes business models as receipts or case studies, which should serve the business and which they can use and modify for their model. The third principle provides scope to differentiate the types of business behavior known in the business world. Business models of successful companies can serve as an example, but of course every business has its ingredients. Each model has its own strategic elements, which include resources, capabilities, technologies, customers and so on.

Digitalization in the business brings a process of change in areas such as the transformation of business transactions, function but also business models (Skilton, 2016, Bloomberg, 2018, Genzorova, 2019). Digital transformation has a broader meaning than digitization. The company can carry out several digitization projects, from automation to retraining employees to new technologies. Digital transformation is a process that reflects a company's strategic attitude to change, which must be customer-driven, requiring cross-cutting and organizational changes and the implementation of digital technologies. Generally, we define digital transformation as the need to integrate digital technologies into many or all areas of business that extensively affect how customer value is created and delivered (Bloomberg, 2018, I-Scoop, 2019)

Awareness of the need for change must begin with the mind-set of employees who must be aware during the course of the fact that companies are facing a problem that we may face in the near future. One example is to raise the profile of senior managers inside the company and give junior positions the opportunity to become part of decision-making processes (Tapscott, 1995, Hellard, 2018).

The emergence of these innovations gives rise to new insights into the product, its production and can even affect the value of existing products. Digital disruption, because digitization disrupts the established market and the consequence of this disruption is the need to reassess existing systems (Madudova, Corejova, & Valica, 2018). With this in mind, the question arises as to how these systems need to be integrated into the supply chain at several levels to achieve efficiency. This leads to the change or creation of new digital business models. In general, disruption of existing systems occurs when a given market area faces challenges that can add value to the customer without the company having to make direct changes (Geissbauer et al., 2016, Mesenbourg, 2001, Rai et al., 2006). According to Gartner (2017), digital disruption can mainly affect these four elements, business, technology, industry, and society. The Global Centre for Digital Transformation conceptual framework for digital transformation understands transformation as an overall change and organizational change within a company. Based on the results of the Global Centre for Digital transformation research, we know that many companies underestimate the risks of digital disruption and poor preparedness has negative consequences. Business transformation is stimulated by several factors such as demand for change by customers, holding a competitive position in the market, or creating a better supplier relationship with customers (Torben, 2012, Hellard, 2018,

DeNisco, 2018, Wade, 2019).

The aim of the paper is to present a case study of digital transformation in a selected large institution operating in the transport sector. It is based on the perception of Ostervalder's business model or Canvas model. The Canvas model has an expression on the market in which the institution operates, on the other hand, has several internal aspects. Human resources are a key resource in the business model of this company. Therefore, the subject of primary research has been the approximation of changes to the business model and digital transformation, including the introduction of new technologies and new processes. The outcomes of primary research were subsequently analyzed and selected aspects were further evaluated by inductive and deductive procedures. The aim of the proposed solutions was to motivate the institution to intensively communicate with all its employees during the digital transformation, not only with its own information technology (IT) department.

2. Framework of Case Study

The objective of this case study is to present the results obtained in the primary research on the attitudes and perceptions of employees during the one process of digital transformation in relation to the changes it brings in the whole institution. The subject of primary research was the institution that was in the process of digital transformation, where the final result is to bring a change in business model and M2M communication (machine to machine communication) with all stakeholders. New digitalization processes also require the introduction of new technologies. The goal of every company should be to support employees in the process of change as well as overcoming the fear of change or resistance to changes associated with digital transformation and business model changes (Genzorova, 2019).

The institution has started to use agile principles in the process of digital transformation:
- meeting in regular cycles (sprints),
- validation of Minimum Viable Product with selected real users,
- assembling a team of professionals,
- establishing a closer relationship between workshop participants and the IT team,
- using new working Methods as Design Thinking.

Based on an analysis of the current situation in the institutions, we consider human resources to be the most important key resource in the digital transformation process (Wade, 2015; Fouad ElNaggar, 2018). In the research problem, we have included finding out the attitudes of users to the new solution or new applications that are associated with the digital transformation of the institution. The research problems, research objectives as well as the research assumptions or the hypothesis are shown in Table 1. We used statistical hypothesis testing to verify the accuracy of our claims. In testing we put two mutually contradictory hypotheses. The hypothesis that we validate is called the tested or null hypothesis. We'll call it H0. Compared to the tested hypothesis we put so-called an alternative hypothesis or research assumption, which we will call H1. The primary research was conducted using the electronic survey. The questionnaire was tested on 3 respondents with the motive to ensure the clarity and accuracy of the questions asked and was verified by experts in practice.

The questionnaire was divided into two parts:
- The first part of the questionnaire was focused on user experience (UX) applications, where we used a customized version of The User Experience Questionnaire (UEQ) methodology.
- The second part of the questionnaire focused on finding out the satisfaction and feedback of workshop

participants on the working techniques used.

The part of questionnaire was aimed to measure the satisfaction of employees with UX of new application and the other part of survey was aimed to find out the satisfaction of workshop participants with new selected working techniques. The role of the project participants was to work together to create a new application with improved UX according to their requirements. They met on a regular basis with IT experts throughout the entire project. It was applied the Likert Scale for measuring satisfaction in the survey, where is a respondent required to express a level of agreement or disagreement with various statements concerning the opinion on a fact. Also, the Likert scale was used for easier quantification of responses and easier completion of the questionnaire. The scale used in the questionnaire:

- Strongly agree: 1
- Agree: 2
- Undecided/ Neutral: 3
- Disagree: 4
- Strongly disagree: 5

The primary research was conducted by the electronic survey according to the hypothesizes (Table 1).

Table 1   The Research Prerequisites for Primary Research

Research problem	Research objectives	Research assumption - hypothesis
Attitudes of respondents to the techniques	RO1: Identifying respondents' attitudes to the working techniques.	RA1/1: More than half of the participants "strongly agree" or "agree" that new techniques are a suitable way of managing work.
		RA2/1: More than half of the participants stated that they "strongly agree" or "agree" that their ideas in developing the new application were taken into account throughout the process.
		RA3/1: More than half of the participants "strongly agree" or "agree" that the whole process was oriented towards solving the problem.
	RO2: The respondents' attitude to the use of these techniques in the future.	RA1/2: More than 50% of participants mentioned that they would often recommend to their colleagues to participate in the selected process.
		RA2/2: More than 60% of participants stated that the approach chosen would recommend to use for other projects of a similar type.
		RA3/2: More than 50% of the participants are "extremely satisfied" or "very satisfied" with the result generated in 3 months.
User attitude to new apps	RO3: Identification of satisfaction with the final outcome of the pilot project.	RA1/3: More than 50% of app users are "extremely satisfied" or "very satisfied" with the app.
		RA2/3: More than 60% of app users "strongly agree" and "agree" that the new application is better than the previous one.
		RA3/3: The attractiveness, efficiency, reliability, perspective, stimulation and novelty of the application examined are higher than 0.6 points.

3. Results of Primary Research

In identifying respondents' attitudes to the working techniques used during the workshop, respondents commented as follows:

- 84% of respondents mentioned in the survey that they "strongly agree" or "agree" that new techniques in the pilot project are suitable for other similar activities (Figure 1). RA1/1: At the significance level of 5%, we reject hypothesis H0 that the 50% consent ratio is greater than the alternative, i.e., we can say that more than 50% of the workshop participants "strongly agree" or "agree" to claim that new techniques are appropriate at work.
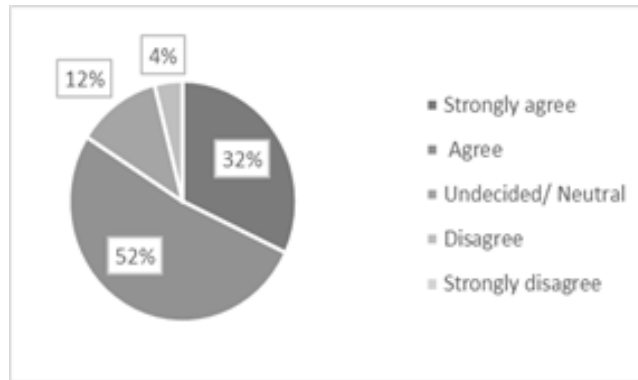
Figure 1   Percentage Evaluation of the Answers for RA1/1

- 68% of participants "strongly agree" or "agree" to have their ideas developed during each iteration included in the project (Figure 2). RA2/1: At the significance level of 5%, we reject the hypothesis H0 that the 50% consent ratio is greater than the alternative, i.e., we can say that more than 50% of the participants in the workshops "fully agree" or "agree" with the claim that their ideas were taken into account, where: a – explanation; b – explanation, etc. (all symbols must be explained).
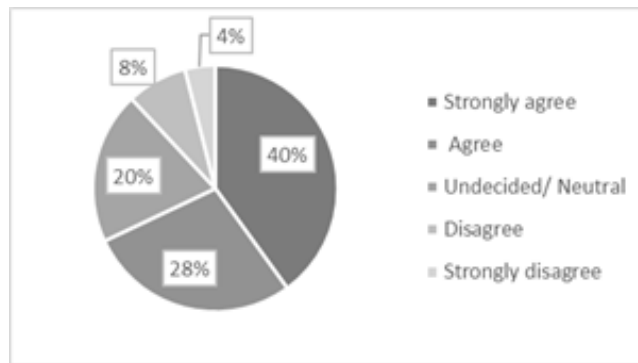
Figure 2   Percentage Evaluation of the Answers for RA2/1

- 80% of respondents "strongly agree" or "agree" that the process was oriented to solve the problem (Figure 3). RA3/1: At the significance level of 5%, we reject the hypothesis H0 that the 50% consent ratio is greater than the alternative, i.e., we can say that more than 50% of the workshop participants "strongly agree" or "agree" with the claim that the process was also problem-oriented.
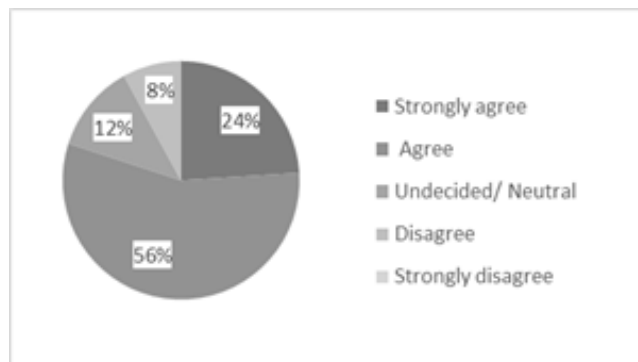

Figure 3   Percentage Evaluation of the Answers for RA3/1

The respondents' attitude to the use of these techniques in the future was as follows:

- 82% of participants would "always" or "often" recommend their colleagues to participate in a similar process (Figure 4). RA1/2: At the significance level of 5%, we reject the hypothesis H0 that the 50% consent ratio is greater than the alternative, i.e., we can say that more than 50% of the workshop participants would "always" or "often" recommend their colleagues to participate in a similar process.
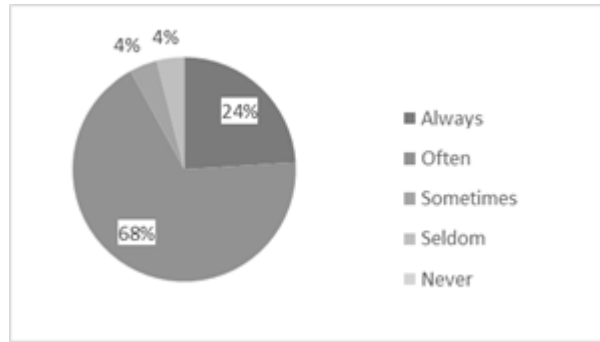

Figure 4   Percentage Evaluation of the Answers for RA1/2

- 80% of respondents would recommend the chosen approach for similar initiatives (Figure 5). RA 2/2: At the significance level of 5%, we reject the hypothesis H0 that the 50% consent ratio is greater than the alternative, i.e., it can be argued that more than 50% of workshop participants would recommend using the approach chosen for similar initiatives.
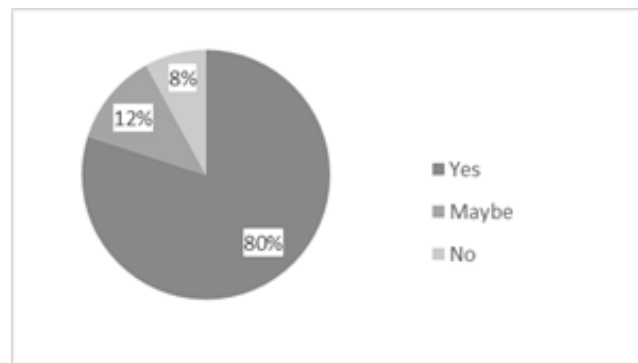

Figure 5   Percentage Evaluation of the Answers for RA2/2

- 72% of respondents are "extremely satisfied" or "very satisfied" with the result produced in 3 months (Figure 6). RA 3/2: At the significance level of 5%, we reject the hypothesis H0 that the 50% consent ratio is greater than the alternative, i.e., we can say that more than 50% of the workshop participants are "extremely satisfied" and "very satisfied" with the result created in 3 months.
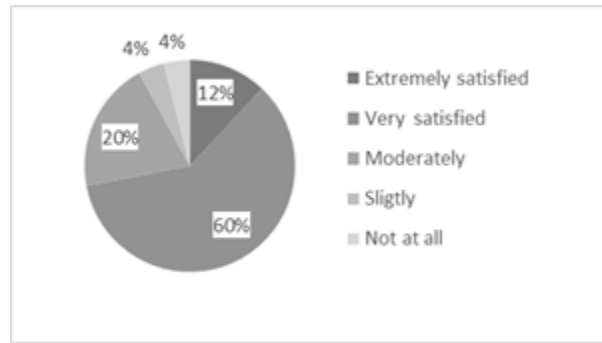
Figure 6   Percentage Evaluation of the Answers for RA3/2

The aim of the questions was to capture the two most important factors:

- Attractiveness — this dimension was created to see if the agile principle was interesting, pleasant, and applicable for the employees.
- Stimulation — the aim is to use techniques that motivate employees to be part of the change process. The aim of the research questions was to determine whether the process was oriented towards solving the problem of the participants and whether their ideas were heard and taken into account during the individual meetings.

Values between (-0.5, 0.5) are neutral and values greater than 0.5 are positive (Figure 7).
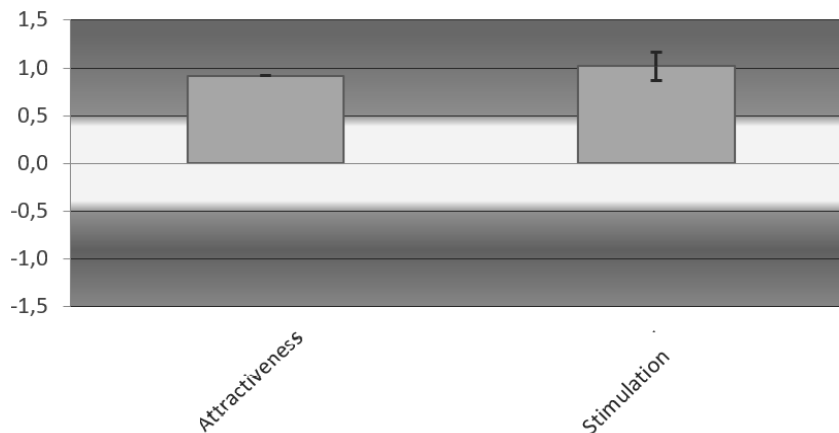

Figure 7   Percentage Evaluation of the Answers for RA2/2

We can state that the respondents who have not met agility so far see it as an attractive way of working, which stimulates them in developing new solutions. Based on verified hypotheses, we know that at least 50% of participants would recommend using a similar system for other initiatives of a similar type.

It can also be stated that at least 50% of respondents would always or often consider agile as a suitable method for future projects. These results of the primary survey and observation during individual meetings lead companies to create a process that is easy to understand and respond to the real requirements of employees.

As was mentioned above, the questionnaire had 2 parts. In the other part of the questionnaire devoted to determining user satisfaction with the new app, we applied the Likert Scale, which required the UEQ methodology, which we modified to reduce the scale and reduce the number of terms. The aim of UEQ was for the respondent to express the level of agreement or disagreement with the various arguments concerning opinion on a fact. Each

expression is in the form of a semantic differential, each item is represented by two expressions with the opposite meaning. The scale used in the questionnaire was the same as above.

The goal of the questioning was to find out how satisfied the users are with the endeavour of the employees who participated in the creation of the application. The research objective was "Identification of satisfaction with the end result of the project". Primary research shows that:

- 65% of respondents using the new app are "extremely satisfied" or "very satisfied" with the new app. RA 1/3: At the significance level of 5% we reject the hypothesis H0 that the 50% consent ratio is greater than the alternative, i.e., we can say that more than 50% of respondents are "extremely satisfied" or "very satisfied" with the new app.

- 80% of respondents "strongly agree" or "agree" that the new application is more user-friendly than the previous one. RA 2/3: At the significance level of 5%, we reject the hypothesis H0 that the consent ratio of 60% is greater than the alternative, i.e., we can say that more than 60% of respondents "strongly agree" or "agree" with the claim that the new app is more user-friendly.
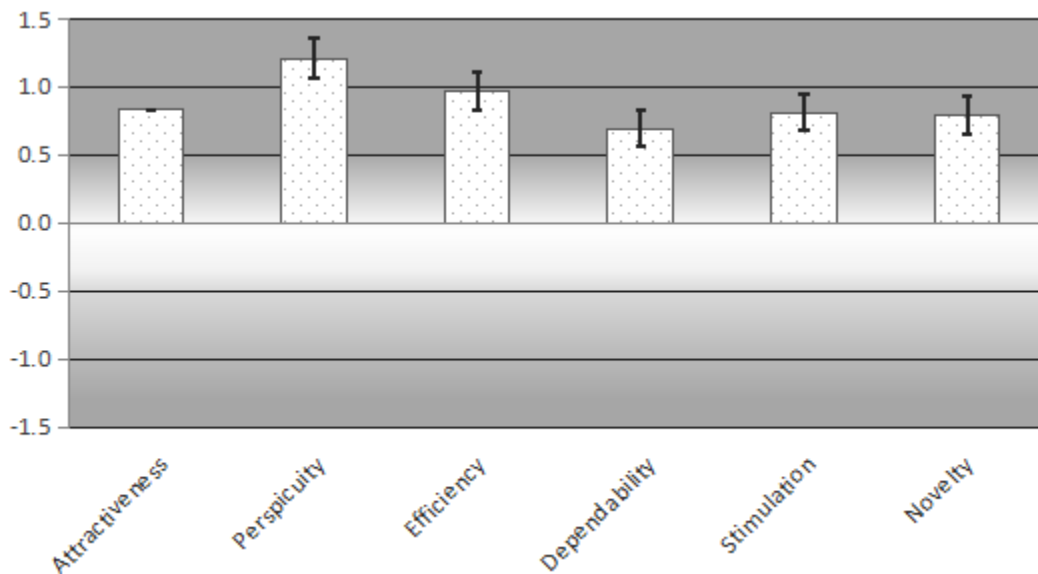

Figure 8   Percentage Evaluation of the Answers for RA2/3

By last research assumption RA3/3 we tried to find out whether the investigated factors such as attractiveness, efficiency, reliability, perspective, stimulation and novelty of the application are higher than 0.6 points, which means a positive result for the new application UX. The evaluation of the RA3/3 research assumption is shown in Fig. 8. The mean value is greater than 0.6 and all values are positive. The goal of creating a new application was to create an application that has a better UX than the previous one, which we confirmed.

4. Discussion and Recommendations

We chose to observe strategic dimension - human resources because of the first attempts to digitize the business model fail on the reluctance of human resources to accept change. Understanding how employees work brings the right solutions inside the business model. Technology itself does not affect the business, but the change of processes within the company. On the basis of the findings, we tried to verify the research assumptions set on

the basis of the importance of technologies during the digital transformation (Kliestikova, Krizanova, Corejova et al., 2018).

First of all, employees must be adequately informed about the future goals of digital transformation and understand their role in this process of change. Human resources should not only be informed by senior management that the change process will be implemented, but should be an active part in creating new processes that relate to their work. Such a procedure can motivate and encourage them to cooperate. Ultimately, changing the business model is intended to bring new value to the customer, but before doing anything inside the company. Human resources as key resources of the business model should be supported by key activities such as adopting new technologies that can reduce the technological intensity of work, but through processes that effectively lead them to a successful outcome.

In companies with a large number of employees and a broad scope of a business, not all departments are directly affected by the changes brought about by the digital transformation and thus are unable to understand the substance and meaning. Employee collaboration to create new processes is essential to create the right solutions within the enterprise.

In the process of digital transformation, it should be the responsibility of the enterprise to develop appropriate programs that will encourage digital thinking among employees. That is why a system of product delivery within the company should be created that will respond as soon as possible to the requirements of employees (Digital transformation is here).

Digitalization from a human resources perspective should include:
- change of work organization for the benefit of the employee,
- intensive communication with the employee about the upcoming change on a positive example that has an impact on each employee;
- systematic training of human resources.

The digital transformation initiative starts primarily on the decision of top-level management, which sees the need to respond to market demands and benefits as a driving force of the business. On the other hand, some employees have to face it and perceive it as a change in organizational culture, working practices and how they do their job.

Employees have the respect, even fear of the changes that digital transformation will bring. First of all, they perceive a negative change in their job position. Many jobs will require skills other than right now, different workflows, which will affect multiple jobs. According to McKinsey, companies that communicate change with executives are eight times more likely to be more successful than those who make no effort. Digital transformation must also include communication with employees at all levels (Ostervalder & Pigneur, 2010).

The communication strategy needs to contain and inform about:
- The goal of digital transformation — positive results
- Impact on employees
- Examples of positive changes
- The interest of top management

In the process of change, it is advisable to create a pilot initiative that, by its vertical nature, can reach every employee. In the framework of this pilot initiative, many principles of digital transformation should be explained in practical examples. It depends on the particular company, respectively transformational team, which it considers appropriate as an example of positive changes.

During the digital transformation, internal marketing must play an important role, which should be a form of constructive communication with employees and aims to create a sense of confidence that the transformation will have a positive impact on their working lives. It is not enough to inform about its progress but to create a sense of employee engagement, which is a key success in adopting change.

5. Conclusion

The digital disruption has brought a radical departure from existing principles in many areas. The change that comes with digital technologies affects decision-making at multiple levels of personal and professional life. Digital technologies are part of the business and serve as a means of value creation, delivery, and consequently an easier way for these processes. For most companies, people are the most important asset. Employees are the ones who can turn customer experience and feedback into the necessary input in creating value. Human resources play an important role in creating a new business model because they know their customers and their activities lead to meeting their needs. Digital disruption affects all procedures and also the employees involved in these processes. Employees are the ones who can turn customer experience and feedback into the necessary input in creating value.

Human resources must play an active role in adopting the principles of digitalization and must be part of the adoption of new technologies in the workplace. Their participation must be active and should not only act as an audience, as is also apparent from the analysis of the state of play. Employees should be committed to working with their company to define the importance of digital transformation and its impact on the business. The employees themselves expressed the need to be informed about the changes.

As the results of our case study as well as the primary and secondary research have shown, digitalization brings a change in the process of creating value for the customer into the company's internal environment. The economics of time and space resulting from the application of digital technologies leads to a significant reduction of time when delivering personalized products to the customer, or tailored products. The results of the primary research showed that agile techniques can be used not only in the process of software development and in the product delivery phase, but throughout the project lifecycle and in the creation of the business portfolio. Stakeholder involvement is essential in implementing digital change. Information, involvement, and training of employees are necessary to maintain a suitable strategy. It is necessary to create mutual empathy, the enthusiasm for working together and engagement in creating solutions among employees of the individual departments.

Acknowledgment

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