

SME HUMAN RESOURCES MANAGEMENT DIGITIZATION: EVALUATION OF THE LEVEL OF DIGITIZATION AND ESTIMATION OF FUTURE DEVELOPMENTS

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Abstract: The aim of the paper is to identify and evaluate the indications of general digitization in SMEs and determine the critical factors of SME digitization at the present time while focusing on the management of small and medium-sized enterprises. The structure of the sample is based on a distributed questionnaire. The verdicts confirming or rejecting hypotheses were based on research questions, formulated hypotheses, and statistical evaluations using MS Excel and R-Commander software, and these statements were further supported by the decision on validity or invalidity of a hypothesis in the whole population. Research has shown that although there is a strong linear relationship between the growth of digitization and the importance of digitization for enterprises, the current requirements for digitization of human resources management activities in SMEs are higher than businesses are able to implement in practice, so the digitization in SMEs is lagging behind.

The main reason is that small businesses do not generate sufficient financial returns to invest in comprehensive restructuring of enterprise systems and structures, thus digitizing most of their departments. Another reason is the smaller number of employees in those businesses where digitization as such would not pay off now. However, SMEs often follow the path of partial digitization, especially in human resources management which is supported by the fact that SMEs very often implement at least a basic human resources management information system, namely this system is used in more than 60% of SMEs.

Key words: Digitization, human resources management, small and medium-sized enterprises.

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Introduction

The digitization of business activities is currently a very hot topic (Guo et al. 2020), mainly due to the pandemic associated with the COVID-19 disease. The vast majority of businesses cannot operate in a standard way. Some industries had to close their offices and specialize in the on-line sale of goods, other industries had to reduce their operations and, for example, limit the number of customers

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within the store at one time. Large, multinational companies are able to cope with these problems quite well and without major losses. Those businesses run very good e-shops and have a sufficient financial reserve to implement, for example, delivery services. However, the same can't be said about small and medium-sized enterprises. Mura (2020) informed that overall business activities have not been successful in recent years, and the COVID-19 pandemic has exacerbated the problems. Small and medium-sized enterprises do not have sufficient reserves to cover several months without income and are therefore forced to lay off their employees. Digitization of enterprise systems, or at least a part of them, seems to be a good solution. However, the vast majority of small and medium-sized enterprises are not able to respond immediately and need more time to restructure their activities. However, even partial digitization of business processes can save the business and it seems essential to digitize at least HR management, for example, through the introduction of a remote working policy (home office) and attendance system.

The paper will evaluate the actual application of digitization in SMEs, compare it with the requirements for SMEs and highlight the importance of digitization. Firstly, the opinions and results of other authors will be mentioned, then methods used for data collection and evaluation will be explained and finally, the results of the paper will be presented and discussed.

Theoretical Background

Strohmeier (2020) stated that the concept of HRM digitization is currently very often discussed by numerous authors, but some of them do not know the true meaning of this phrase. According to the author, this is the digital management of all human resources activities as evolutionary progress of the previous concept of human resources management. Janakiram (2019) outlined that the current situation of HR management around the world is very competitive and companies are forced to cope quickly with this pressure and build a sustainable structure. Mira, Moura and Mónico (2018) added that competition is also evident in tourism. Chandra, Shirish and Srivastava (2020) said that most companies, however, disagree with the experts' recommendation to adapt quickly to digitization and claim they do not have sufficient financial reserves for such investment. According to Smith (2020), lack of the business owner's leadership skills is a common issue. Isensee et al. (2020) confirmed that organizational culture, environmental sustainability and digitization have an impact on the development of small and medium-sized enterprises (SMEs). Similar findings were obtained by Bilan et al. (2020) within the analysis of compensations and benefits policy for employees. Hinke et al. (2019) state that many small and medium-sized enterprises are currently being established, which increases competition between them. Sivash et al. (2020) claim that digitization a fundamental activity that every company must perceive and conform to. Abdillah et al. (2018) argue that an effective tool of such efforts is knowledge sharing within the company. That is why this direction becomes crucial

for the HRM as it is proved by Poór et al. (2018). Bokolo and Petersen (2020) say that elements of digitization nowadays seem to be more crucial than ever before, mainly as a result of the coronavirus pandemic. Digitization is a current trend and necessity. Shpak et al. (2020) add that digitization is absolutely essential in the business environment. Semikin (2019) states that digitization can help businesses in optimizing human as well as other resources. However, the shortage of highly skilled employees able to use new possibilities of digitalization can be essential obstacle for business development and overall national competitiveness (Oliinyk et al., 2021). Mlynarovic and Romanova (2018) stated that while digital technology is becoming a commodity very fast, business success depends to a large extent on how the company management defines, communicates and manages digital transformation, whether inside or outside the organization. Marx (2019) confirmed the tourism industry with predominantly small and medium-sized enterprises is also strongly influenced by digitization. Stoldt et al. (2018) stated that digitization offers the manufacturers ways and means to adapt their production systems so they can cope with diversified and rapidly changing market demands. According to Marsikov and Mazurchenko (2019), the digitization of HR elements seems to be the primary key. Blstakova et al. (2020) state that digitization changes people management in two phases. Phase one is the adaptation of systems to integrate physical inputs into digital systems and phase two is to redefine values for internal and external customers. Dethine et al. (2020) inform that digitization affects much of a company's organizational strategy, including the development of market opportunities. However, Westerlund (2020) said that small businesses are not able to digitize mainly because their basic principle was not designed to do it. On the contrary, Schumacher, Nemeth and Sihm (2019) stated that SMEs are well prepared and ready to invest in digitization which was supported by Bouwman, Nikou and de Reuver (2019) who said that SMEs have limited time and limited resources for experimentation, but they are still ready to implement new strategies.

Belas et al. (2020) state there is very little room now for motivation in SMEs and that companies should not underestimate the motivation of employees and should dedicate more efforts to it. Kasych, Vochozka and Yakovenko (2019) pointed out that current businesses must be economically, socially and environmentally sustainable. Belas et al. (2020) added that, for example, small and medium-sized enterprises are exposed to high pressure in respect of sustainability and corporate social responsibility because they have been facing these demands for a much shorter time than large enterprises. Škapa and Vochozka (2020) stated that businesses are currently trying to comply with all regulations concerning, for example, environmental responsibility or other modern business topics. Vochozka, Rowland and Suler (2019) added that such activities will then increase the value as well as the valuation of a firm. Bencsik, Kosár and Machová (2018) have a similar opinion and argue that a firm's added value is the basis of its success. Mitrofonova, Konovalova and Mitrofonova (2019) highlight three main directions of artificial intelligence influencing the digitization of human resource management, namely

digital workforce and digital human resources management. Makarova, Shubenkova and Pashkevich (2018) present a model, which can be used to manage the digitization of human resource management. A specific mathematical model developed by the authors works with the company's architecture and analyses the risks that affect the human resources management in the company. Brusáková and Mamina (2018) point to the fact the introduction of digital elements is just a matter of time for Industry 4.0. Zhou et al (2020) examined whether the HRM digitization and the HRM maturity of a company are interconnected. The conclusion was that the level of digitization and the maturity of the HRM system in a company are indeed positively interconnected and there is a significant relationship between these factors. Mangipudi and Vaidya (2018) inform that for the HRM (Human Resource Management) digitization process, the key is to incorporate digitization elements into a company's vision and strategy and train managers on the concept of Cloud HR technology. Přivara and Kiner (2020) also recognize the importance of recruitment programs that facilitate the work of managers. Iqbal et al. (2018) examined whether electronic human resource management (e-HRM) has an effect on a company's labour productivity. The authors concluded that this effect is statistically significant with a positive direction. In their research, Iqbal et al (2019) analysed whether electronic human resource management (e-HRM) has an impact on an organization's performance. The outcomes based on a large amount of data indicated that e-HRM processes have a very significant impact on the overall business performance and the quality of HRM services has highly increased through e-HRM processes. Chu and So (2020) examined the occurrence of four types of employees' unethical behaviour compromising information security in applications. This training was identified to have a high impact and significantly increases employees' awareness of threats that may be encountered when using corporate information technology.

Srivastava, Bajaj and Dev (2020) stated that human resource management in the modern era is supported by an information system in the vast majority of businesses which significantly facilitates this process. Barisic, Poor, and Bach (2019) share this point of view stating that information technologies are ubiquitous today and their use, especially the use of HRIS technology, affects the organization's performance. Shahreki et al. (2019) reviewed the e-Recruiting system. The conclusions of the study show the perception of the HRIS system by employees has only a small and indirect effect on their satisfaction, and employees generally accept this system with only small reservations. Karacsony et al. (2020) found that these reservations depend on employees age and being lower for younger generations of job seekers. The same conclusions are typical for study of Egerová et al. (2021) within the investigation of determinants of employment of Millennial job seekers. Popova et al. (2020) confirm that problems related to human resources development exist, and there are quite a few of them. According to Vorzhakov and Boiarynov (2020), digitization in human resource management is a key activity that all companies worldwide should implement. Mamatov et al.

(2018) analysed the information systems for regional human resources development. The authors found that the regional sphere of human resources is primarily managed in a dynamic way, i.e. adapting management models to real time conditions. Masum et al. (2018) stated that the human resources information system (HRIS) plays a strategically very important role in decision-making processes for effective human resources management. Sristava, Dev and Bajaj (2021) discussed the applicability of the human resources information system (HRIS) in the workplace. The authors found that in 2019 employees perceived HRIS as a threat and something new and did not want to admit that this system could help the business and perceived it as a burden. Now, 2 years from the application of the system, their views have changed in a fundamentally positive direction. Mauro and Borges-Andrade (2020) sought to identify the relevant aspects to reap the benefits of the innovative potential of Human Resource Information Systems (HRIS). The authors found that the actual implementation of HRIS in the corporate system does not ensure the achievement of competitive advantages, but it is necessary to digitize the entire corporate structure, including the organizational structure, and supply system, or production, etc. Davarpanah and Mohamed (2020) indicated that system-based factors through information quality and trust in HRIS contribute to the satisfaction of system users (employees). The research also confirmed that the implementation of HRIS at this university has also led to increasing staff productivity. Al Athmay (2019) analysed the impact of information technologies on the functions of the human resources department in the United Arab Emirates. The outcomes of the research were positive and showed that EHRMs are widely used in the UAE and directors consider this system to be essential for their company. The goal set by Martono et al. (2020) was to understand the intentions of employees who use the corporate information systems within the Technology Acceptance Model (TAM) and Information System Success Model (ISSM). The results of the study show the TAM model had a positive and significant effect on the employees' intentions. The ISSM model also had a significant effect on the employees' intentions although this effect did not prove to be as great as the TAM model.

Stehel, Horak and Vochozka (2019) stated that the advent of the Internet and artificial intelligence has facilitated a large number of business processes such as predictive tools or enterprise data management. Galera-Zarco et al. (2020) stated that firms operating in various sectors are engaging information technology (IT) partners to acquire digital capabilities, improve their operational efficiency and offer new values.

Suroso, Budhijana and Delfiani (2018) analysed the impact of the Enterprise Resource Planning (ERP) model on employee performance to provide information and feedback to the management. The results show the impact of the ERP model on employee performance is both direct and indirect. In addition, the quality of the information provided by employees to the management was found to have a negligible effect on employee performance.

RQ1: Which of the identified critical groups have a significant impact on HRM digitization?

Research Objective, Methodology and Data

The aim of the paper is to identify and evaluate the indications of general digitization in SMEs and to determine the critical factors of SME digitization at the present time.

The level of our digitization was analysed in 8 different areas A - H. This analysis was based on a questionnaire survey conducted in the first half of 2020. For each area, a group of questions characterizing the level of digitization in the particular area were formulated. The questions were published on the Internet and submitted to SME HR officers in the Czech Republic. For the purposes of this paper, only 8 questions were used (sector H of the questionnaire): "Indications of the information digitization to which the business responds with process innovations towards employees", namely Question 1: Digitization of analogue data (human resources information system), Question 2: Digitization of biometric data (e.g. access data), Question 3: Digital interaction platforms, networking (e.g. internal communication), Question 4: Big data analytics (e.g. employee motivation analysis), Question 5: Rapid analytics (e.g. feedback), Question 6: Predictive analytics (e.g. in work performance management), Question 7: GDPR (employee protection) and Question 8: Use of social networks for the recruitment of employees, and two identification questions concerning the number of employees and the prevailing majority ownership of the company.

Our research sample consisted of 610 small and medium-sized enterprises. The answers to the questions asked were evaluated on a five-point scale. On the one hand, the actual application of enterprise digitization was evaluated: 1 Not applied, 2 Not applied so far, Application considered, 3 I cannot judge the actual state, 4 Partially applied, 5 Fully applied, and the degree of importance of this digitization for the future of the company: 1 Insignificant, 2 Rather insignificant, 3 I can't judge the importance, 4 Rather important, 5 Important. The results of the answers were saved in a Excel spreadsheet file, checked and modified for uploading into the statistical software. In accordance with the cited literature, the following 3 research hypotheses and 2 research questions were formulated. The validity in the research sample and the significant validity across the Czech population of SMEs was verified and evaluated using statistical methods. In particular, the basic descriptive statistical techniques (absolute and percentage relative frequency tables and figures), conditional numerical averages, statistical one sample and paired two-sample tests for average differences, and correlation analysis were used. Numerical results were obtained from Excel and the R statistical system.

In this paper, we aim to confirm or reject the statement of the following hypothesis using statistical tools.

Hypotheses:

H1: The importance of SME digitization is significantly higher than its current application in SMEs while there is a significant linear relationship between the importance of digitization and the level of application of digitization in SMEs.

H2: Human Resources Information Systems (HRIS) are currently implemented in at least half of SMEs.

Results

Table 1 shows the average values of the current application of enterprise digitization measured on a five-point scale (present evaluation Hp1 to Hp8), the degree of importance of this digitization for the future of enterprises (evaluation for the future Hef1 to Hef8) and the differences between these two evaluations $\Delta_i = Hef_i - Hpi$ for each individual group of questions 1, 2, 3, 4, 5, 6, 7, 8.

Table 1. Average Hp, Hef values and their differences for each group of questions related to digitization

	1	2	3	4	5	6	7	8
Hpi	3.515	3.275	3.493	2.979	3.204	3.186	4.356	3.374
Hefi	4.039	3.711	3.923	3.592	3.719	3.687	4.548	3.847
Δ_i	0.524	0.436	0.430	0.613	0.515	0.501	0.192	0.473

The above differences are graphically represented by Figure 1.

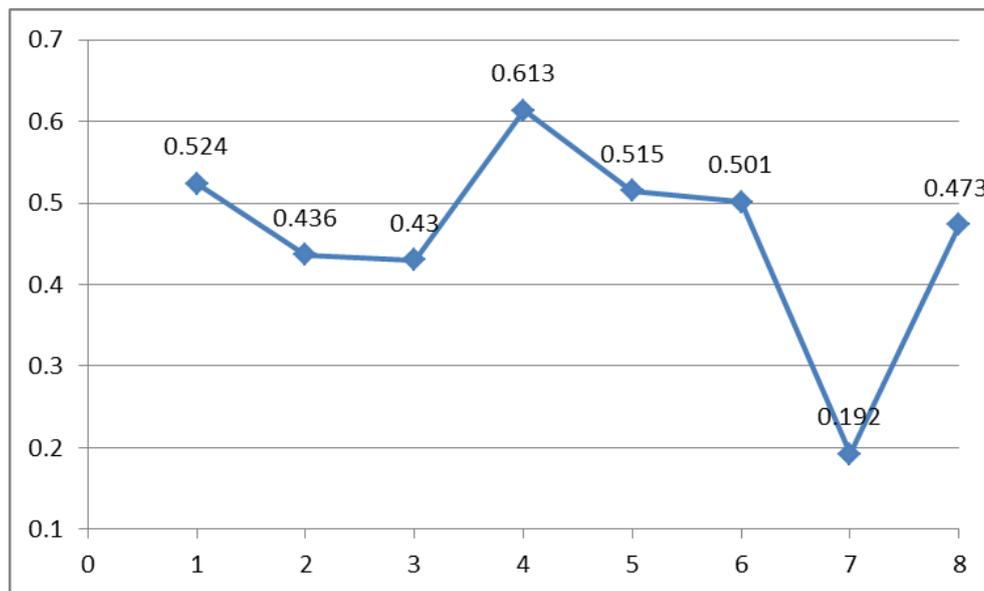


Figure 1: Illustration of differences of values $\Delta = Hef - Hp$ for each group of questions related to digitization (own processing)

All the differences are positive. These results show that the first part of hypothesis H1 is really valid in the sample. The evaluation of differences in the degree of importance of digitalization and the level of its actual application in different business activities of the company can be considered as the basic indicators for estimating the needs of future development of enterprise digitization in said areas. The validity of the conclusions in the whole population of SMEs will be verified by paired asymptotic tests for averages. Let μ_{pi} and μ_{fi} denote the population averages of the degree of importance of digitization for the future of enterprises and the actual evaluation (values) of the current level of digitization of enterprises for the i -th group of questions where $i = 1, \dots, 8$. The null statistical hypotheses $\mu_{fi} = \mu_{pi}$ will be tested against the right-tailed alternate hypothesis $\mu_{fi} > \mu_{pi}$ where $i = 1, \dots, 8$. The test statistics values and p-values of these tests are summarized in Table 2.

Table 2. Results of paired tests for an average difference

	1	2	3	4	5	6	7	8
u	14.97	13.25	13.76	16.77	14.83	14.01	7.215	12.72
p-hr	0	0	0	0	0	8.05.1 0 ⁻¹³	0	0

The validity of the alternate statistical hypothesis was confirmed in all tests. Thus, it was established in all analysed groups of questions that the achieved level of digitization in SMEs is significantly lagging behind the required level of importance of digitization for the future of businesses. This is in line with the working hypothesis H1. The biggest difference between the evaluation of the level of digitization and the evaluation of its implementation is in Question 4 from the questionnaire (i.e. analysis of employee motivation) and the smallest difference (although also significant) is in Question 7 from the questionnaire (i.e. GDPR, e.g. employee protection).

In the second part of the working hypothesis, the dependences between the degree of importance of digitization for the future and the actual evaluation of the current level of enterprise digitization are examined from the perspective of individual groups in the questionnaire. For this analysis, Spearman correlation coefficients and their significance tests were used (to determine the correlation coefficients r , test statistics S and test p-values). The results obtained from the R program are summarized in Table 3.

Table 3. Correlation analysis of the linear dependence of the importance of future enterprise digitization on the current level of digitization according to the groups of questions

	1	2	3	4	5	6	7	8
r	0.723	0.778	0.77	0.735	0.753	0.689	0.713	0.74
S	10460101	270706	8972012	9996138	9237707	11591885	10697788	9735209
p-hr	0	0	0	0	0	0	0	0

In all groups of questions related to digitization, there is a positive, linear, quite strong and statistically significant dependence between the two variables. As the achieved level of enterprise digitization grows, so does its degree of importance for businesses across the groups of questions. The differences in the strength and significance of this dependence are small. The conclusion is that the first part of H1 was confirmed and the importance of digitization is currently really higher than its actual application in SMEs. It was further confirmed there exists a significant linear relationship between the importance of digitization and the degree of application. H1 was therefore proven to be true.

The structure of answers related to H2 whether the company has at least partially implemented a human resources information system (HRIS) (evaluation 4 and 5) or not (evaluation 1, 2 or even 3) is illustrated in Table 4.

Table 4. Number of answers to the analysed question.

Number of answers	Introduction of a human resources information system
Yes	356
I don't know	112
No	140
Total	608

The table above shows that more than 50% of respondents answered that HRIS had at least partially been implemented in their company and about 23% of respondents / businesses did not have this system in place. The remaining 18% of respondents were unable to give an unambiguous answer to this question. If the percentage of respondents who were unable to answer was removed from the evaluation, it would be found that more than 71% of the respondents / businesses who answered the question had the HRIS system in place, thus about 29% reported the absence of this system.

This result confirms the validity of the research hypothesis H2 in the sample. HRIS has been implemented in the absolute majority of SMEs (even over a 60% majority).

The generalized validity of this statement can be demonstrated by a one-sample asymptotic likelihood-ratio test. Let π denote the population share of enterprises that have implemented HRIS. The null hypothesis $\pi = 0.6$ will be tested against the right-tailed alternate hypothesis $\pi > 0.6$. Test statistics $U = 5.35$ and $p\text{-hour} = 4.33 \cdot 10^{-8}$. The test confirmed the significant validity of the alternate hypothesis. It shows that the implementation of the HRIS system is significantly very common in the entire SME population - at least in 60 % of businesses. For 70% it is no longer possible to confirm it ($u = 0.862$, $p\text{-hour} = 0.193$). H2 was therefore proven to be true.

The research question examined which of the identified critical values received the highest ratings from the respondents. This evaluation result represented by the arithmetic mean is shown in Figure 2.

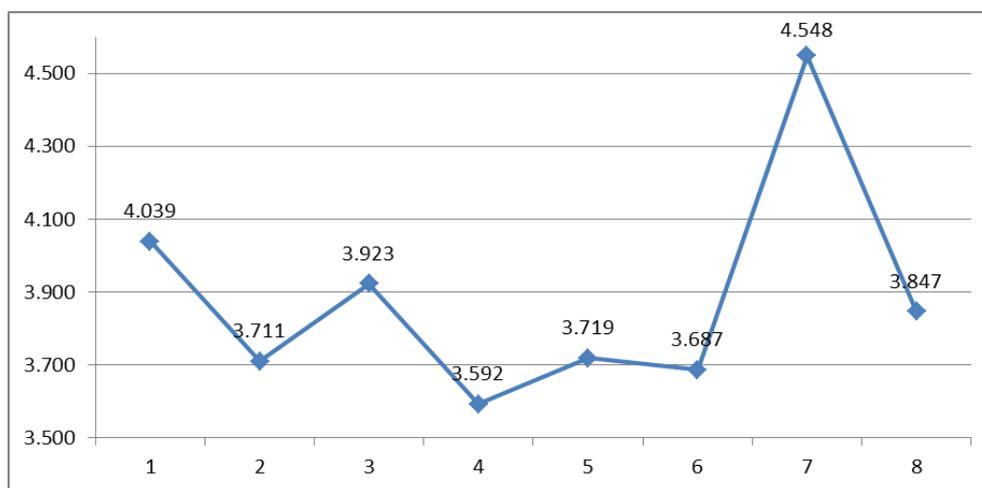


Figure 2: Illustration of the average ratings of the identified group of questions
 (own processing)

Furthermore, this evaluation can be illustrated with a figure of the percentage relative frequencies of the evaluation categories in the groups of questions as shown in Figure 3.

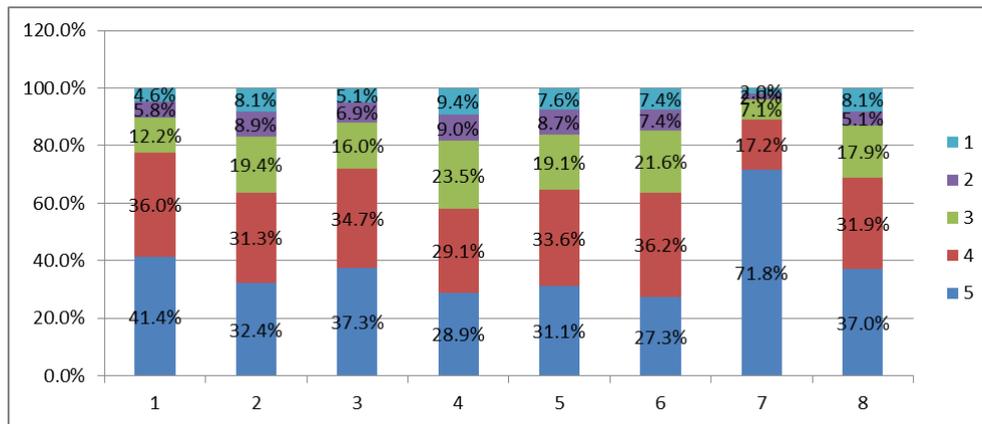


Figure 3: Group diagram of evaluation category percentages in the groups of questions (own processing)

Discussion

RQ1: Which of the identified critical groups have a significant impact on HRM digitization?

The groups of Question 7 (rating of 4.548 points) and the groups of Question 1 (rating of 4.039 points) have a major impact on the HRM digitization. Conversely, the groups of Question 4 (3.592 points) and Question 6 (3.687 points) have the least effect.

The HRM digitization is significantly influenced by the group of Question 7 where 71.8% of businesses consider the level of importance for the business as important, 17.2% as rather important, 7.0% are unable to judge the importance, 2.0% as rather insignificant, and 2.0% as insignificant. Consequently, $71.8 + 17.2 = 89\%$ of businesses (dark blue and brown part of the column) evaluate the importance of digitization positively.

H1: The importance of SME digitization is significantly higher than its current application in SMEs while there is a significant linear dependence between the importance of digitization and the level of application of digitization in SMEs.

The information provided in the results part clearly shows that the validity of the first part H1 was confirmed where the degree of importance of digitization for enterprises is as a rule higher than the current level of the applied digitization in SMEs. The biggest differences between the importance and level of application of digitization in SMEs were identified in Question 4, i.e. analysis of employee motivation, and conversely, the least differences were identified in Question 7, i.e. GDPR. Hypothesis H1 was therefore proven to be true.

H2: Human Resources Information Systems (HRIS) are currently implemented in at least half of small and medium-sized enterprises

With regard to the results of the second hypothesis, it was found that more than 50% of respondents answered that the HRIS system had been implemented in their company and more than 23% of respondents did not use this system in their company. If the answers of respondents who were unable to answer the question were removed from the sample, then the use of HRIS would be about 73%. Hypothesis H2 was therefore confirmed.

The above clearly shows that the degree of importance of SME digitization is really higher than its actual application while the biggest differences are identified with respect to employee motivation. On the contrary, businesses have already managed to partly facilitate the area of GDPR. Consequently, we can contend that businesses do not have ideal conditions for adapting to digitalization, but they do all they can to adapt at least partially as confirmed by Bokolo and Patersen (2020), Chandra, Shirist and Sristava (2020) and Janakiram (2019). HRIS is currently used by more than 50% of small and medium-sized enterprises while the percentage may be even higher since a large proportion of respondents said they were not sure. The same results were obtained by Masum et al. (2018), Vorzhakova and Boiarynova (2020), Sristava, Dev and Bajaj (2021).

Conclusion

The aim of the paper was to identify and evaluate the indications of general digitization in SMEs and to determine the critical factors of the SME digitization at the present time.

The first step was to formulate research questions based on which a questionnaire was compiled and then submitted to the responsible respondents. The questionnaire covered the context of Industry 4.0 and was used to obtain data related to small and medium-sized enterprises. The data were subsequently evaluated to create the basic structure of a research sample. The obtained data were further subjected to statistical analysis, including MS Excel and R-Commander software.

The research has indicated that despite the high requirements for digitization of SMEs, the current implementation of these innovations is lagging behind and small and medium-sized enterprises simply do not keep up with times and their human resources management systems are outdated based on requirements although a strong linear relationship between the growth of digitization and its importance for SMEs is evident. The main reason is the smaller number of employees where the complex digitization of business processes would not pay off much and would take a lot of time and would also require large investments. However, the partial digitization of at least key HRM processes in the company seems worthwhile. For small and medium-sized enterprises, it seems useful to implement digital elements in human resources management, namely the HRIS system or the human resources information system. It has been proven that most SMEs follow this path of partial digitization and the electronic human resources management system can be found in almost every business today regardless of its size or the sector of operation.

The above findings can be used for further analysis of the HRM digitization activities in SMEs as well as the results can help the specific company management to realize that the digitization of human resources management is a step forward and that investment in these activities can reduce costs of those departments and increase the transparency and security of these activities. The results obtained from the research are limited by the questionnaire used (especially by the number of identification questions and the number of issues of fact, defining the studied critical factors and SME areas of activity).

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CYFRYZACJA ZARZĄDZANIA ZASOBAMI LUDZKIMI MŚP: OCENA POZIOMU CYFRYZACJI I SZACOWANIE PRZYSZŁEGO ROZWOJU

Streszczenie: Celem artykułu jest identyfikacja i ocena przejawów ogólnej cyfryzacji w MSP oraz określenie krytycznych czynników cyfryzacji MSP w chwili obecnej, skupiając się na zarządzaniu małymi i średnimi przedsiębiorstwami. Struktura próby oparta jest na kwestionariuszu rozproszonym. Werdykty potwierdzające lub odrzucające hipotezy oparto na pytaniach badawczych, sformułowanych hipotezach i ocenach statystycznych przy użyciu programu MS Excel i R-Commander, a twierdzenia te zostały dodatkowo poparte decyzją o słuszności lub nieważności hipotezy w całej populacji. Badania wykazały, że chociaż istnieje silna liniowa zależność między wzrostem cyfryzacji a znaczeniem cyfryzacji dla przedsiębiorstw, obecne wymagania dotyczące cyfryzacji działań z zakresu zarządzania zasobami ludzkimi w MŚP są wyższe niż przedsiębiorstwa są w stanie zrealizować w praktyce, więc cyfryzacja w MŚP pozostaje w tyle.

Głównym powodem jest to, że małe firmy nie generują wystarczających zwrotów finansowych, aby inwestować w kompleksową restrukturyzację systemów i struktur przedsiębiorstwa, a tym samym cyfryzując większość swoich działów. Innym powodem jest mniejsza liczba pracowników w tych firmach, w których cyfryzacja jako taka by się teraz nie opłacała. Jednak MŚP często podążają ścieżką częściowej cyfryzacji, zwłaszcza w zakresie zarządzania zasobami ludzkimi, o czym świadczy fakt, że MŚP bardzo często wdrażają co najmniej podstawowy system informacji o zarządzaniu zasobami ludzkimi, a mianowicie system ten jest używany w ponad 60% MŚP.

Słowa kluczowe: Cyfryzacja, zarządzanie zasobami ludzkimi, małe i średnie przedsiębiorstwa.

中小企业人力资源管理数字化: 数字化水平评估 和对未来发展的估计

摘要: 本文的目的是在关注中小企业管理的同时, 识别和评估中小企业普遍数字化的迹象, 确定当前中小企业数字化的关键因素。样本结构基于分布式问卷。确认或拒绝假设的结论是基于研究问题、制定的假设以及使用 MS Excel 和 R-Commander

软件进行的统计评估, 并且这些陈述得到了对整个人群假设的有效性或无效性的决定的进一步支持。研究表明, 虽然数字化的增长与数字化对企业的重要性之间存在很强的线性关系, 但目前中小企业对人力资源管理活动数字化的要求高于企业在实践中能够实施的数字化中小企业落后。

主要原因是小企业没有产生足够的财务回报来投资于企业系统和结构的全面重组, 从而使他们的大部分部门数字化。另一个原因是这些企业的员工人数较少, 而这些企业现在数字化不会带来回报。然而, 中小企业往往走的是部分数字化的道路, 尤其是在人力资源管理方面, 中小企业往往至少实施一个基本的人力资源管理信息系统, 即60%以上的中小企业都在使用该系统。

关键词: 数字化, 人力资源管理, 中小企业。