IDENTIFYING AI-REPLACEABLE JOBS IN SMES: A PROCESS PROPOSAL

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Abstract

Artificial Intelligence (AI) implementations focus on simple and complex repetitive activities. AI technology can generate "pseudo-original" solutions from data analysis. Therefore, the impact of the implementation on the workforce, and employees in companies and hence the macroeconomic and other implications of the implementation are questionable. The main aim of the paper is to propose a process to identify the workplaces that can be assumed will be replaced by AI in the 2023-2027 horizon. The set of enterprises is limited to a small sample due to the high laboriousness of the proposed solution procedure. Based on the research findings from 6 enetrprises across different sectors, the results show that AI implementation varies significantly across sectors, with highest impact identified in case of workplaces related to marketing activities and data analysis.

Key words:
Artificial intelligence, model, digital technologies, automatization

INTRODUCTION

During times of change, there is intellectual, economic, and political competition between groups seeking to control systems relationships, and feedback, and ultimately determine its new equilibrium. In 1811, the Luddite protest began as a reaction by weavers to the deployment of looms to replace their positions/human labor. The aim was to increase productivity by replacing stereotypical human labor. The Industrial Revolution began in the textile industry in the 19th century. Great Britain pioneered the first Industrial Revolution where hand production methods started from 1720 to 1840. Several items were produced in this age. Great Britain paved the way for entrepreneurial, legal, and cultural foundations to be set up. The free market economy was introduced which later led to the first Industrial Revolution (Hussain, 2019). Human labor began to be replaced by machines, which led to an increase in productivity, but also to social changes. While the system ultimately settled on a set of institutional arrangements preferred by British industrialists, at the time, the Luddites presented an alternative that highlights how, in times of transformation, possible future states are contested (McGowan & Geobey, 2022).

During the following period, society has gone through further industrial revolutions, up to the current fourth, characterized by digital technologies, artificial intelligence (AI), robotics, blockchain, and the Internet of Things (IoT). Artificial intelligence is one of the key aspects of this period. Since the 1950s, when McCarthy introduced the term Artificial Intelligence, the AI field has developed in two dimensions: human-centered and rationalist approaches (Borges et al., 2021). In contemporary organizational settings, artificial intelligence (AI) can be regarded as a technology implemented to emulate human performance. It possesses the capacity to derive its conclusions through a process of learning, thereby enhancing human cognition or even substituting for humans in various tasks (Jiang et al., 2022).

Various studies show numerous aspects of AI. Artificial Intelligence implementations focus on both simple and complex repetitive activities. At the same time, however, it can also reproduce data-based art and literary works (photos, paintings, essays, stories) as well as new creative works. AI technology can generate "pseudo-original" solutions from data analysis (Chiu et al., 2023; Jiang et al., 2022). Thus the possibility of incorporating them into processes that are not limited to repetitive and simple activities exists.

The correctness of AI's answers/responses is determined by the training data and the methods that generate answers/solution suggestions from the data. Therefore, the inaccuracies/errors generated do not reflect the intention of the AI application but rather the inadequacy of the training data or a model that was used inappropriately. AI does not have a true value system and is unable to form its worldview. At the same time, it is important to understand that AI is just a framework for processing data and performing tasks and that it does not have the actual consciousness or experience that is important for the brain to function. Although comparing AI to the workings of the brain is inaccurate, behind many of the models there is an attempt to mimic this. The author Odor (2022) lists five basic brain functions - long-term memory, attention, environmental sensation, movement, and value systems - for control and proper brain functioning. If we try to specify the basic functions of the brain and the ability of AI to mimic these functions (which also suggests the possibility of replacing human resources) we can illustrate this effort with Table 1.

Table 1 Brain functions and their limitations by AI

Functions of the brain	AI - the possibility of imitation
Long-term memory	yes - own by computer
Attention	yes – with regard to available hardware and software
Perceptions of surroundings	yes – disponibility of sensors
Sensations of movement	yes – disponibility of sensors
Value system	no

Source: author's elaboration

A lack of self-awareness characterizes AI. The error that AI produces is not to gain an unwarranted benefit but because of a lack of training data leading to an erroneous conclusion, or the application of a model that misinterprets the data. The AI error does not mimic a deliberate action. In the case of artificial intelligence (AI), we can say that some of these functions are partially transferred to AI systems. For example, AI systems can use data from the external environment and perceive it through sensors. AI may also be able to perform movements through its robotic limbs or software simulations. So, while AI may perform certain functions similar to those of the brain, it cannot be completely compared to the brain.

By AI we mean a wide range of methods and models (hardware and software) that can perform not only routine activities with a high level of reliability but also propose solutions to decision-making problems based on data analysis. Their scope is very wide and affects the workplaces in various sectors.

Digital transformation has already become part of every economic branch and the lifestyle of the enterprise. AI is considered a priority and the size of cyberspace becomes vital and becomes one of the main topics of governments' agendas (Veglianti et al., 2022). Companies understand that data analytics, "big data" and customer experience are top priorities. Working with data is a competitive advantage for future development, and therefore if when AI implementation is not a priority the development towards this trend after hardware and application know-how development will certainly be a priority in the future. The ability to develop such a system requires improving human skills and existing models, and thus an overall ability to keep up with change. From an application perspective, industries with a good data foundation (such as finance, healthcare, automotive, and retail) have relatively mature AI application scenarios (Zhang & Lu, 2021).

AI has been successfully applied in the financial markets. At the current stage of AI, the authors (Milana & Ashta, 2021) argue that it is possible to find productive applications of AI that impact the everyday lives of the average consumer with facial and voice recognition systems, machine interaction with human voices, data collection, and organization of market information, NLP

(Natural Language Processing), financial advice, fraud and risk assessment, credit management, pricing, applications leading to fintech, and integration with other emerging technologies such as cryptocurrencies and blockchain.

Today, AI is also playing an important role in the field of medicine. AI has the potential to make substantial progress toward the goal of making healthcare more personalized, predictive, preventative, and interactive (Khan et al., 2023). It was identified that AI continues to significantly outperform humans in terms of accuracy, efficiency, and timely execution of medical and related administrative processes. Benefits for patients map directly to the relevant AI functionalities in the categories of diagnosis, treatment, consultation, and health monitoring for self-management of chronic conditions (Ali et al., 2023).

The use of AI is also becoming increasingly important in the retail sector. Authors Fu et al. (2023) identified the following factors that affect AI adoption in the retail industry: data usefulness, the difficulty of data acquisition, AI system usefulness, organizational change capability, and enhancement of customer value. We found that after AI adoption, top management in retail prioritized factors related to business performance, such as enhancing customer value.

AI has a wide range of implications for media and entertainment, including marketing techniques, efficiency, customization, and content creation. Content production is becoming more dynamic and focused, as AI algorithms evaluate vast amounts of data to create content specifically for target audiences (Prasad & Makesh, 2024). On the other side, representatives of the creative sector warn that AI is using copyrighted content without the authors' permission and compensation. Artificial intelligence is effectively 'training' itself on the results of the work of those it may soon replace. Adopting generative AI raises legitimate concerns, particularly in intellectual property rights and copyright adherence (Amankwah-Amoah et al., 2024).

Tourism has experienced significant shifts in marketing, engagement, and memory-making through innovative interactions and co-creations with AI chatbots, smart room controls, and other AI-powered systems (Miao & Yang, 2023). The authors (Samala et al., 2022) analyzed the use of artificial intelligence technologies in the provision of tourism services in the following areas: Facial recognition regulating travel facilities; virtual reality regulating travel, tourism & hospitality related factors; chatbots regulating destination tourism infrastructure & tourist infrastructure facilities; robots regulating hospitality related facilities; google maps regulating general infrastructure & tourist infrastructure facilities; language translators regulating destination tourism infrastructure; optimization services regulating tourist infrastructure. Their research has confirmed that both tourism businesses and their customers will benefit from using AI. Enterprises in the travel industry will be able to better control business processes that will be largely automated and business operations and protocols will be simplified in nature. Tourism customers in the tourism industry will benefit from a higher level of satisfaction.

The increasing relevance of AI in marketing is also witnessed by the emergence of several literature reviews on the topic. Marketers are using language AI as tools for sales, payment processors, and engagement managers to improve the user experience. AI can help marketers by identifying relevant content that users want to read. It can also help marketers with email campaigns, allowing them to maximize results. Customers can now rely on chatbots to do the buying process for them, rather than having to figure it out for themselves (Haleem et al., 2022). The skilled work with data brings significant effects on the marketing of the company, namely: if we know how to work with data more accurately, we will not have to make an offer for a given segment, but for a specific client (increase the response rate). In marketing, this corresponds to the concept of concentrated marketing, which is extremely targeted thanks to data work - not to a narrow group but to an individual customer. The effect is to increase efficiency and the expectation of increased competitiveness and sustainability of the company.

AI is also used in practical applications in geodesy like data analysis, deformation analysis, navigation, network adjustment, and optimization of complex measurement

procedures (Reiterer et al., 2010). AI in construction can help companies realize value throughout a project's lifecycle, including planning, tendering and funding; procurement and construction; operations and managing assets; and transforming business models. AI in construction helps the industry as a whole overcome some of our toughest challenges, including safety concerns, labor shortages, and cost and schedule overruns (Rao, 2019).

In contrast to the manufacturing sector, the service sector involves a high degree of communication, coordination, and cooperation with the customer. At the same time, it is an intangible, customized "product" with a high degree of customer input. As such, it represents several areas where digitalization can be used to improve productivity and help design ways of working that support learning at work (Link et al., 2020). In the current AI practices, machines predominantly plan, manage, control, and optimize work without appropriately considering human-related input and preferences. However, architects, engineers, managers, clients, and other decision-makers should consider their input into their work to better generate their desired ideas, prototypes, and solutions. For this reason, AI needs to be human-centric (Nabizadeh Rafsanjani & Nabizadeh, 2023). The implications of further automation, especially in the tertiary sector, must be given careful consideration by policymakers and practitioners. It is therefore important for the future to think about how to retrain people and help them to find other jobs.

Automation and its implementation in enterprises is accompanied by a growing demand for experts. AI technologies are increasingly penetrating major industries and disproportionally generating new labor demand for AI-skilled workers (Choi & Leigh, 2024). AI is increasingly integrated also into human resources management (HRM). While the potential of AI to augment the HRM activities within organizations is substantial, concerns regarding its implementation and implications for workforce management and the HRM function as a whole must be addressed to ensure optimal outcomes (Bujold et al., 2024). AI-HRM is a topic beyond the field of HRM because of its interdisciplinary nature, i.e., the development of AI-based human resources (HR) tools depends

on progress in technical fields, while implementations of such AI tools and consequences of AI implementations rely on knowledge from social science.(Pan & Froese, 2023). AI has been successfully applied in various HRM functions such as human resource (HR) performance evaluation, employee selection, employee turnover, and others (Qamar et al., 2021). Despite this fact, the topic of AI in HRM is still nascent and underdeveloped compared to other fields. The question is therefore the impact of implementation on the workforce, and employees in companies and related not only microeconomic as well as macroeconomic aspects.

The small and medium-sized business sector represents 95 to 98% of all businesses. In Central Europe with high emphasis on Slovakia, SMEs account for 99% of business units (Mura et al., 2023). Small and medium-sized enterprises (SMEs) have an undersized technical infrastructure. At the same time as developing them, they understand that working with data is a competitive advantage for their future development. AI has a specific position as it gives companies adaptability and polyvalency. The risk is that certain companies cannot access the AI technology. This is particularly the case for SMEs which have neither the financial means nor the expertise, even though the functionalities of AI could be particularly useful for them (Wei & Pardo, 2022). Authors Baabdullah et al. (2021) state three categories of the consequences of AI practices: relational governance, customers' AI-based interactions, and SMEs' AI-enabled performance. Therefore the implementation of AI becomes a priority, and the evolution towards this trend after hardware and application know-how development will be a priority in the future. SMEs' AI readiness depends on IT infrastructure and strategic integration with HR, aligning AI with existing practices, addressing challenges, and considering customer needs to enhance adoption success. AI can help SMEs optimize profits, reach broader customer bases, and improve efficiency (Schwaeke et al., 2024). SMEs need to pay attention to both internal (enterprise development needs, implementation cost, human resources, and top management involvement) and external factors (external market pressure, convenience of AI technology, and policy

support) and their different impacts on intelligent transformation (Wang et al., 2020). The findings of the authors Kumar et al. (2024) suggest to micro and SME (MSME) decision-makers that AI-powered workforce management may help revenue growth, workforce risk reduction, intelligent business and marketing, and thoughtful, innovative, and safe information exchange. MSMEs are required to use AI in information sharing that helps in workforce risk management, business and marketing, and intelligent workforce management that scales economic growth. According to Iliescu (2020) the digital enterprise integrative management framework is based on splitting the transformation into three processes: (1) enterprise core processes that are focused on the maximization of customer value; (2) shared real-time information and operational connectivity which creates a response-based/demand-driven network of supply chain relationships among participating business entities; (3) commitment to operational excellence manifested in the form of customer-centricity. From the author's perspective, an integrated company is defined by five elements: integrated operations, measurement and metrics, financial stewardship, customer accommodation, and human resource development.

Concerns are escalating that robotics and artificial intelligence may displace numerous job roles. In response to this evolving employment landscape, future workers must cultivate innovation skills, identify opportunities, revolutionize industries, and devise inventive solutions to global challenges (Ramachandran et al., 2024). The literature review reveals a research gap regarding AI job replacement in SMEs. While numerous studies examine AI's impact on employment in large corporations, empirical research focusing on job displacement by AI specifically in the SME context is relatively limited. Our research focuses on examining if specific positions or tasks related to them within SMEs, can be potentially replaced by AI implementation. While large enterprises have been the primary focus of AI displacement studies, understanding the impact on SMEs is crucial as they represent a significant portion of the economy. This study aims to identify the positions that might be fully replaceable or which specific tasks within various jobs could be

automated through AI implementation in the SME context. This approach allows for a more nuanced understanding of how AI might transform work in smaller organizations, rather than simply replacing entire positions.

The paper proposes a process to identify the jobs/job roles that can be assumed/will be replaced by AI implementation in the 2023-2027 horizon. The set of enterprises is limited to a small sample due to the high labor intensity of the proposed solution procedure. Incorporating the characteristics of individual jobs from the Register of Occupations in the Slovak Republic (Ministerstvo práce, sociálnych vecí a rodiny SR, 2024), it would also be possible to prepare active labor market measures reflecting the expected structural unemployment.

The following research questions (RQs) are addressed to solve the above-mentioned contexts:

RQ1: What is the most common impact of AI on the economic branch?

RQ2: What are the key work positions in selected economic branches that could be replaced by AI implementation?

RQ3: What are the possibilities for applying AI in the horizon of years 2023-2027?

The rest of the paper is structured as follows. Section 2 presents the methodological details of the current study. The analysis and findings are provided in Section 3. Section 4 presents the implications and limitations of the study.

2. METHODOLOGICAL APPROACH

This research is based on a qualitative approach, which enables a deeper understanding of the investigated phenomenon through detailed data collection and analysis. The qualitative approach was chosen due to the need to capture the complexity of the investigated phenomenon and understand it in its natural context. The research uses interpretive phenomenological analysis (IPA), which allows us to investigate how the participants attribute meaning to their life experiences. This approach is suitable for examining individual cases in detail and identifying common themes across cases.

The main method of data collection will be semi-structured interviews, which were conducted according to a pre-prepared interview protocol with enterprises' representatives and analysis of organizational structures and processes. The questions were open-ended, allowing participants to freely express their experiences. The interviews were recorded and then summarized in tabular form.

The population of this study was SME entrepreneurs (owners/managers). To preserve anonymity, the respondents were marked with codes R1 to R6. Six enterprises represented different sectors (culture, tourism, marketing, geodetic and construction works, intermediation of trade with various goods, preparation and implementation of innovation and development projects). The average duration of the interviews was between 30-40 min. The questions were listed as follows:

Q1: Which factors determine the human resource impacts (their quantity) concerning AI implementation?

Q2: Which elements/solutions of the AI implementation may have an impact on human resources in the enterprise?

Q3 Which job positions in the company are possible to be replaced by AI?

The obtained data were analyzed using the method of thematic analysis, while the main themes and patterns in the answers of the respondents were identified. To increase the validity of the research, the method of data triangulation was used, where the answers of respondents from different industries were compared. The results were compiled into clear table 1, which enabled a systematic comparison of the obtained data across industries. Results were categorized based on sectors, number of employees, key activities, AI applicability, and job replacement decisions. As part of the data analysis, the identification of areas where it could be possible to apply AI and the assessment of the potential impact on employment based on the specifics of individual jobs were carried out, based on the Register of Occupations.

3. Findings and discussion

Table 2 gives the summarized answers of the respondents according to their comments on the issues of AI implementation in different job positions in the company. The table also contains a list of occupations listed in the Register of Occupations, focusing on the area in which the company operates and in connection with the job positions that the company has listed. Most companies see the potential of AI as a support tool, not as a complete job replacement. The degree of implementation depends on the type of industry and the nature of the work activities. The greatest potential is in areas with a high proportion of analytical and routine work. Jobs requiring creativity, personal contact, and specialized knowledge are less likely to be replaced by AI.

The results of the conducted qualitative research provide answers to three research questions.

RQ1: What is the most common impact of AI on the economic branch?

The most common impact of AI is in the following areas: *management and administration* - all companies (R1-R6) identified potential in this area; *support processes* - accounting, data analysis, workforce planning; marketing and content creation - particularly R3 and R5 identified a significant impact; *the intensity of the impact varies by sector*, with the lowest impact in the cultural and artistic sector (R1) and the highest in marketing (R3) and commercial intermediation (R5).

RQ2: What are the key work positions in selected economic branches that could be replaced by AI implementation?

Based on the data, the following **positions** can be identified: *marketing:* graphic designers; programmers; specialists in market analysis; creators of marketing content; *tourism:* partial replacement of receptionist activities; support administrative positions; *business mediation*: data analysts.

RQ3: What are the possibilities for applying AI in the horizon years 2023-2027?

The **opportunities for AI applications** vary by industry: *Culture and Arts* (R1): limited opportunities in core business, potential only in support management. *Tourism* (R2): accounting, staff planning, automation of part of reception services. *Marketing* (R3): creative concepts, graphic design, marketing content creation.

Geodesy and Construction (R4): preparation of official documents, and management support activities. *Business mediation* (R5): analysis of large data sets, translations, creation of advertising content, calculations, and analysis, heat maps evaluation, competitor analysis. *Administrative work* (R6): support for SMEs, support to tourism, promotion of social innovation.

Table 2 The summarization of respondents' answers to issues of AI implementation

| Question	R1	R2	R3	R4	R5	R6
The focus of the company	culture, entertainment, dance performances	hotel, tourism	marketing activities (promotion, market research, projects); internationally active	geodetic and construction work associated with it	intermediation of trade with various goods	preparation and implementation of innovation and development projects
Nr. of employees	8 (fixed)	40 (fixed)	22 (12 fixed, 10 partial)	20 (fixed)	7 (2 fixed, 5 partial)	15 (9 fixed, 6 partial)
Classification of individual employees	no record in the database to this staff job	director, operator, head of the reception, cooks, staff in the kitchen, waitresses, maintenance workers, operator of the relax centre, receptionists, custodians	director, office manager, head of business dept., head of production, financial manager, team leaders; account manager, art director, graphic designers, programmers, photographers, social media administrators, copywriter	Authorized geodesist, mechanical engineer, geologist, geodetic – operations, 1 – general staff	2 directors, 1 accountant,1 IT technic, 1 designer, 2 projectants	1 director, 1 deputy director, 1 administration, 1 professional officer for projects, 1 cameraman, 1 graphic designer, 1 photographer, 1 destination development manager, 1 destination manager, 1 small and medium business support manager, 1 social inclusion and employment specialist, 1 regional product manager, 1 project manager, 1 communications officer
From the set of occupations listed key activities	member of the dance choir	manager, hotel receptionist, cook and chef, helper in the kitchen, waiter,	marketing manager, sales manager, marketing analysis and market research specialist,	authorized surveyor and cartographer, authorized engineer for the construction of	internet sales specialist, sales agent, social media manager, product specialist, marketing	regional and rural development specialist, specialist in the implementation of trade measures,

		employee of the wellness and spa center, hotel receptionist	social media manager,	engineering structures, construction supervisor, construction designer, construction quality control technician, laboratory technician, construction budgeter, calculator, manager (project manager) in the construction industry	analysis and market research specialist, public relations executive (manager), sales executive (manager), goods dispatcher, goods creation and display control officer, sales representative, internet sales associate, customer care executive (manager), market research executive (manager)	specialist in science, research and innovation development, specialist in public administration in the field of culture, eu funds programming specialist (manager)
The possibility of applying AI in the horizon years 2023-2027	In dancing – 0; in management – potential but without impact on nr. of employees	In hotel activities – impact of AI is limited; in management – potential in accounting, staff planning, part of receptionists agenda	AI is applicable in management – accounting, and in marketing projects – creative concepts, programming, graphic designs	In management – support, preparation of official documents based on the assignments, construction work associated with landscaping	analysis of large data files and databases, translations, creation of advertising and marketing content, calculations and transfers, comparisons, evaluation of heat maps, competitor analysis	SME business support, tourism support, social innovation support
Decision on possible job replacement (yes/no)	no	No (partial managerial activities – support)	Yes (3 persons – in marketing projects)	No	yes (1)	no

Source: author's elaboration

Based on the results of the qualitative study we propose a model for identification of AI replaceable jobs in SMEs that consists of 5 process steps (Figure1).

Figure 1: Proposed model for identification of AI replaceable jobs
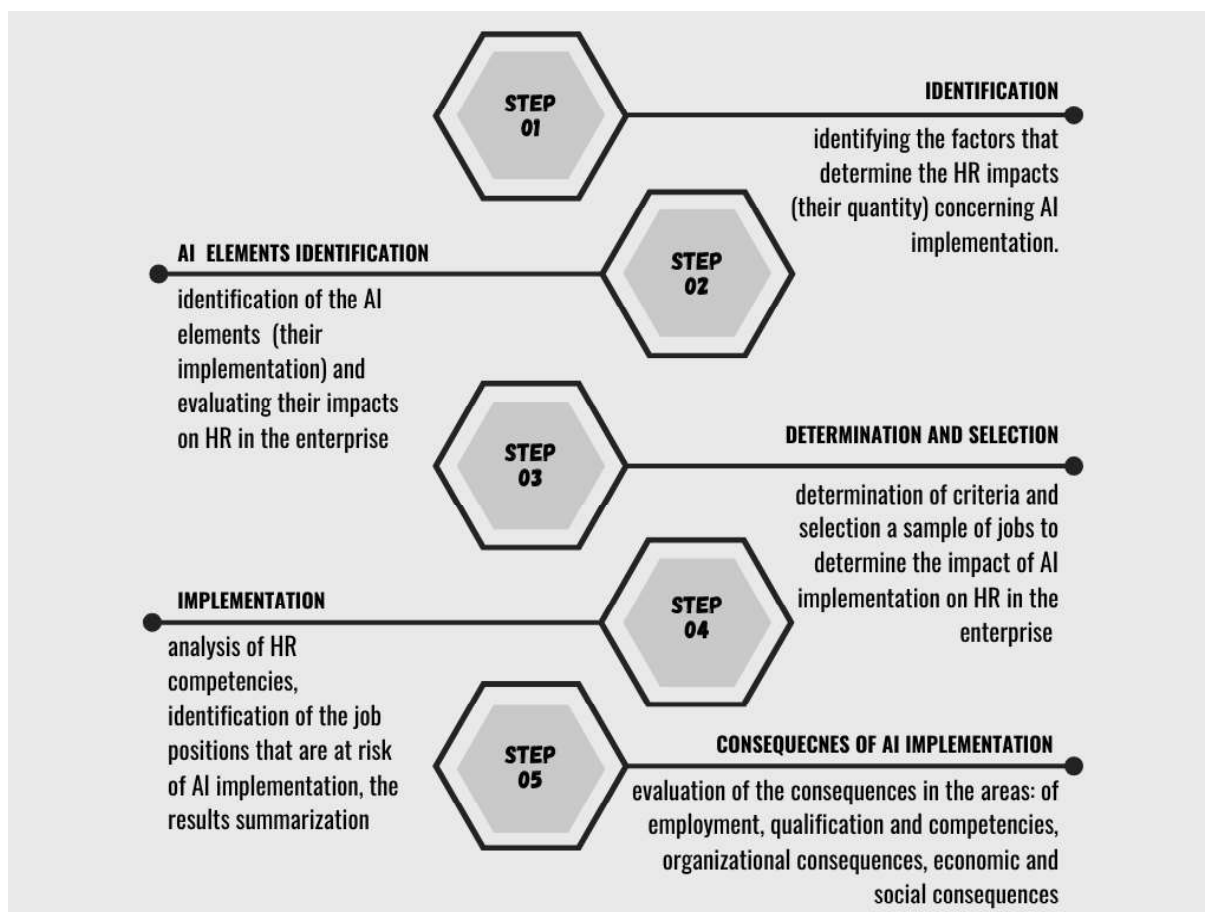
Source: author's proposal (2024)

Step 1 consists of identifying the factors that determine the impact of AI implementation on HR (their quantity). It is necessary to investigate internal (organizational changes, new competencies), as well as external (trends in AI, legislation) factors that have an impact on HR. The part of this step is the quantification of how many employees, processes, or business areas and related job positions could be affected by AI. This is necessary to be done due to the evaluation of the range of the AI implementation on HR.

Step 2 identifying the elements/solutions of AI (their implementation) and evaluating their impacts on human resources in the enterprise. The focus is on concrete AI solutions technologies, which will be implemented (chatbots, tools for data analysis, automation of accounting).

Step 3 relates to the determination of the key criteria and the selection of a sample of job positions to determine the impact of AI implementation on HR in the enterprise. Defining the key criteria is necessary (the routine of tasks, the level of human interaction, technology availability of AI tools, costs, risks, and benefits). This step contributes to the ensuring model will be based on real data about job positions which enables to identification of replaceable tasks.

Step 4 consists of three partial steps. The procedure is as follows. For the selected enterprise, the employees - their competencies and other relevant factors will be analyzed; data from the National Occupational Inventory will be used as an information base and compared with the data provided by the enterprises. From the above set, the employees of the enterprise who are at risk of implementing the AI

element/system will be identified. The results achieved for the enterprise will be summarized and the level of job position will be also commented on..

Within **Step 5,** the enterprise should analyze and describe the consequences of the AI implementation on their business in the following areas: employment – the identification of the number of employees in routine positions and development of new positions for the AI implementation, and the identification of the consequences on various jobs positions; qualifications and competencies - statement of the new requirements and types of training of employees; organizational consequences - the impact on effectiveness, productivity and other results and processes in the enterprise; economic and social consequences – the analysis of costs, increasing of productivity, the impact on competitiveness, the analysis of the negative (decrease in employability in some areas, increase in uncertainty among employees) and positive (impact in social aspects, improvement of working conditions, elimination of monotonous and physically demanding tasks) factors.

4. CONCLUSION

The implementation of AI presents an important opportunity for the increase of enterprise efficiency with an impact on productivity and competitiveness, but on the other hand, it brings as well various risks.

This research was focused on the identification of work positions/tasks, which can be replaced by AI in SMEs, based on qualitative research among six Slovak enterprises. We proposed a model that consists of 5 steps and provides a systematic framework for the identification of these challenges and could help enterprises to be prepared for their solution.

Partial conclusions can be also drawn from the cited literature. AI models are characterized by complexity and diversity. AI applications do not only present benefits - some professions and unions feel threatened (beginnings of legal disputes). AI applications are not limited to simple repetitive problems/tasks; their applications are also moving towards specific solutions that integrate data and knowledge in the field (in correspondence with the notion of machine learning). AI applications are based on data and applied methods, so it is important to confront the solutions provided with reality. AI applications represent an important element in the growth of the competitiveness of a company, or a country. AI is becoming part of the company's development strategy. Although conclusions are drawn on the assumptions about the impact of AI on the workforce; it is noted that in the long run, it is problematic to state that AI implementation will lead to an increase in unemployment; similarly, it is also stated that AI will create additional jobs and occupations.

The results of qualitative research showed that AI implementation is limited to services where specific human activity is not required; existing solutions for the future will be coupled with robots and the entire AI complex that will be available for specific activities. AI implementation is possible (although limited for now) in programming and marketing activities. Implementation of AI in management - may include a wide range of problems - associated with hiring employees, their education and training, performance evaluation, and contact with customers for orders. A limitation/risk of AI applications is the requirement for skilled human resources for communication and financial resources to purchase and operate the relevant AI models. Going forward, the key is to focus on the training and development of employees so that they are ready to work with AI technologies.

The limitation of the research is the relatively small research sample, which, however, due to the exploratory nature of the study, provides sufficient insight into the investigated issue in the context of various industries.

Further research should explore the long-term impacts of AI implementation on the labor market in different sectors.

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