



# Artificial Intelligence (AI) Technology Adoption in SME

**Dr. Salahuddin Ahmed**

Assistant Professor

Southeast Business School, Southeast University

Dhaka, Bangladesh

E-mail: ronysworld@live.com

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## Abstract

This study specifically examines the limitations faced by small and medium-sized organizations (SMEs) in adopting Artificial Intelligence (AI) technology. To this day, a small number of individuals in Malaysia have actively embraced the usage of AI technology. Small and Medium-sized Enterprises (SMEs) are significantly underrepresented in comparison to bigger corporate entities and are at risk of losing their competitive edge. The objective of this study is to identify the obstacles to using AI in SMEs and propose strategies to overcome these challenges. Reviewing prior literature and research on the application of artificial intelligence (AI) in business, technology adoption in small and medium-sized enterprises (SMEs), and digital transformation in SMEs, we identified ten concepts that may influence the outcome of an AI adoption decision process. These concepts include AI value perception, AI adoption barriers, data ecosystem requirements, strategy and resources, digital transformation capabilities, organization readiness, management support, AI talent, risk perception, AI technology accessibility, and ease of implementation. The principles were employed synergistically with the Technology-Organization-Environment (TOE) paradigm as a research perspective. Historically, this subject lacked enough investigation.

**Key Words:** Artificial Intelligence, Technology adoption, AI adoption, Risk perception, AI value perception, SME

## 1. Introduction

The term artificial intelligence (AI) denotes the development of computers that emulate the cognitive abilities of humans. Within a few years, it is quite probable that machines equipped with artificial intelligence would dominate the research and manufacturing facilities. At now, artificial intelligence is in its early developmental phase and possesses the distinctive capacity for learning and reasoning that is exclusive to human beings (Trippi & Turban, 1992). Efficacious algorithms facilitate the learning process in machines. Alone, the sophisticated algorithms may independently enhance their decision-making and prediction capabilities. Effective implementation of artificial intelligence in machines necessitates extensive programming and configuration for each action and choice to guarantee optimal efficiency. AI



refers to the incorporation of human logic and intellect into a computer. Artificial intelligence (AI) encompasses the capacity for visual perception and interpretation of speech (Brynjolfsson & McAfee, 2017). Artificial intelligence was described by Marvin Minsky, a researcher in machine learning science, as the ability of machines to do tasks that inherently need human intellect (Minsky, 1968; Richard Pastryk). AI, as defined by John McCarthy, is the scientific and technical field concerned with the development of intelligent machines. Artificial intellect (AI) is the emulation of human intellect, mimicking our ability to learn by watching and working based on our own techniques. Although Artificial Intelligence is sometimes referred to as automated intelligence, it encompasses more than just the simulation of human intellect (McCarthy, 2007). The field of artificial intelligence encompasses several methodologies such as machine learning, natural language processing, deep learning, and others. This approach entails the use of intelligent computers to acquire the ability to identify patterns. Artificial intelligence, in its essence, encompasses the capability of humans to do tasks that extend beyond mere emulation of human intellect. Artificial intelligence (AI) encompasses several disciplines such as machine learning, natural language processing, deep learning, and other related technologies. These tools can greatly complement students in their academic decision-making and self-directed learning processes.

Thus far, there has been limited empirical research undertaken on the intricacies of AI innovation management. This is in opposition to several studies that have proclaimed immense potential for AI technological advancements, including those published by prominent global consulting organizations. While the futuristic elements of these research are frequently inspiring, the overall predictions of AI technology and their future advantages are typically utilized. Empirical evidence about the current state of AI-driven innovation is crucial in order to avoid both the apprehension and exaggeration around AI-based technologies. The significance of factual evidence in AI-based innovation management is important for developing a comprehensive grasp of the actual issues that lie ahead and formulating effective management and policy responses. Therefore, the objective of this study is to provide actual data on unique obstacles of AI-based innovation acquired from Austrian firms. The primary goal of this study is to present empirical evidence on fundamental innovation requirements for small and medium-sized enterprises (SMEs) utilizing artificial intelligences (AIs) towards a broad economic community. The selected breadth was intended to facilitate evidence-based policymaking on AI-based innovation. The purpose of this study is to guide the development of a national IA plan and specific IA-based innovation support initiatives from a long-term



perspective. The report concludes with comprehensive principles for managing AI-based innovation, which address the requests of policymakers seeking to foster AI-based innovation.

## **2. Literature Review**

### **2.1 Artificial Intelligence Transform Business and Efficiency**

Instead of serving as replacements for AI business systems, they might be utilized as tools to assist people. Artificial intelligence (AI) has the ability to analyze data with greater efficiency than the human brain. By providing valuable insights, AI may significantly improve decision-making mechanisms inside businesses. As compared to other business intelligence tools, AI surpasses all other traditional data analysis software employed by firms in its capacity to discern trends (Brynjolfsson & McAfee, 2017).

Intelligence is specifically developed to enhance corporate efficiency by utilizing deep-seated learning applications that offer extensive insights into the operational dynamics of the organization. Integrating artificial intelligence (AI) into existing technologies will significantly enhance operational performance, such as improving the utilization and effectiveness of humanoid office robots for automating office tasks. The humanoid robots are outfitted with artificial intelligence for real-time data analytical, simplifying data gathering. Furthermore, AI-enabled humanoid robots may be integrated with external business systems, hence enhancing management's ability to monitor and coordinate the operations of different departments, beyond the capabilities of dashboards. Implementing deep education and leveraging Tensor Flow to streamline the recruiting process by automating the evaluation process for job applicants on an organization's website. The implementation of deep AI applications enables firms to efficiently identify and hire human resources by minimising overall periods of inactivity caused by a shortage of skilled personnel (Trippi & Turban, 1992). With the emergence of e-commerce, all companies who have established a website or have the opportunity to engage in online sales highly value online communication. These chatbots, driven by artificial intelligence, are utilized to establish connections with social media platforms and digital customers. Chatbots will also exhibit time-saving capabilities and provide quicker responses to consumer inquiries compared to human-based customer support. Hence, chatbots are a cutting-edge artificial intelligence (AI) solution that enhances managerial productivity and provides firms with a competitive edge in customer processing and timely resolution of client inquiries (Partanen et al., 2017). The comprehensive learning architecture enables the creation of customized evaluations that may construct a consumer profile for every



online buyer, therefore enhancing the efficiency and speed of the consumer purchasing process. Corporate entities often utilize artificial intelligence software applications, such as deep learning, to expand investment opportunities that improve investment choices inside corporations and detect any fraudulent activities. The software program, driven by artificial intelligence, offers firms virtual assistance in effectively managing numerous consumers that are crucial for any contemporary company strategy. According to Liebowitz (2001), chatbots play a crucial role in maintaining the online presence of corporate organizations in the marketplaces, thereby enabling customers to promptly get information on fresh product specifics. Knowledge plays a crucial role in contemporary corporate marketing. AI-powered business intelligence systems will leverage consumer data to offer company insights on optimal market strategies for products and services, as well as identify successful items in the market. Artificial Intelligence (AI) software can efficiently evaluate information and data points on the Internet and offer the necessary input to improve business operations inside the firm (Partanen et al., 2017).

## **2.2 Small and Medium-Sized Enterprises (SME)**

The European Commission defined SMEs as establishments with fewer than 250 employees and turnover of less than 50 million euros or income of 43 million euros (EC 2009). European Union aims to enhance and advance the business drivers of small enterprises (EC 2019). The United States Government also highlights the significance of its Small and Medium-sized Enterprises (SMEs), which contribute to two thirds of all newly created employment opportunities (USTR 2018).

Furthermore, apart from the economic aspect, small and medium-sized enterprises (SMEs) have greater flexibility within their internal structure, making them more likely to get advantages from approaches such as open innovation (Spithoven et al., 2013). Prior literature assessments have indicated that industrial SMEs do not fully leverage and frequently completely disregard technologies related to Industry 4.0 (Moeuf et al., 2018). Multiple studies have identified and reported the characteristics of small and medium-sized enterprises (SMEs). Quinton et al. (2018) discovered certain characteristics of small and medium-sized enterprises (SMEs) that get advantages from digital processing. Entrepreneurship, innovation, a focus on learning, and concentration of authority were identified as key attributes of one leader's leadership. In 2018, Moeuf and colleagues identified four key management characteristics of SMEs: a short-term orientation, valuable contributions of SME managers, absence of support



functions from specialists, and a short hierarchy. Furthermore, Laforet and Tann (2006) outlined four significant aspects: community, process, management, and company strategy. Research in the manufacturing sector has identified a correlation between a company's internal culture and process innovation. It has been shown that the adaptable, informal, and customer-oriented environment is equally significant. In contrast, the characteristics of bigger companies vary. Nicholas et al. (2011) found that big companies characterised by several management levels tend to exhibit a sluggishness in respond to changes. Unlike SMEs, they lack a highly adaptable culture and instead foster a fixed and organised working environment. Furthermore, their employee's exhibit reduced levels of effort. Furthermore, they exhibit greater reluctance to introduce new operating procedures, but excel in product innovation, particularly targeting small and medium-sized enterprises (Laforet and Tann 2006).

### **2.3. Conviction of Artificial Intelligence impact on Economy**

This paper provides an overview of the suggested method for integrating AI solutions in maintenance to address specific needs of small and medium-sized enterprises (SMEs) and the challenges associated with alternative methods. It specifically examines the obstacles faced by SMEs in adopting AI (Prem 2019). The implemented approach consists of four essential phases, each comprising several sequential actions. The AI team's role is to centrally monitor and coordinate each process phase, thereby establishing a competence center for integrating and disseminating obtained information throughout the whole enterprise. Organizations must not underestimate the potential impact of AI technology on society, since another "AI-winter" is expected to be used to describe the phase of investment and enthusiasm that is typically succeeded by deception and withdrawal of financial support (Lovelock et al., 2018). Throughout the 1970s and 1980s, there were two instances of "AI winters" when the capabilities of AI failed to meet established criteria, resulting in a decrease in investment and enthusiasm. Lovelock et al. (2018), Moller et al. (2019), and Ostergaard et al. (2019) have unanimously forecasted this outcome, both in the present and in the foreseeable future. Moller et al. (2019) estimate that the cumulative investment in AI operations in Europe during the period of 2008 to 2018 amounted to USD 10.5 billion, exhibiting a consistent yearly increase. Based on projections of AI market value growth, it is anticipated that AI will generate an annual value of around \$11-17 trillion in the Nordic region (equivalent to around \$750-1.200 trillion globally) (Ostergaard et al., 2019). Lovelock et al. (2018) projected that the growth of artificial intelligence (AI) will result in a corporate value of \$2.9 trillion by 2021 and recover worker



productivity by 6.2 billion hours. These publications demonstrate the indispensability of AI for companies in the present day and advocate against its neglect. Three main components, as identified by Rao & Verweij (2017), are responsible for the plausible economic impacts. The identified primary driver would enhance efficiency by the automation of repetitive job procedures, therefore augmenting people' capabilities and allowing them to allocate more time towards more value-added tasks. One further factor is that the AI leader would gain advantages from possessing exceptional understanding and customization for customers, resulting in the provision of AI-enhanced products and services.

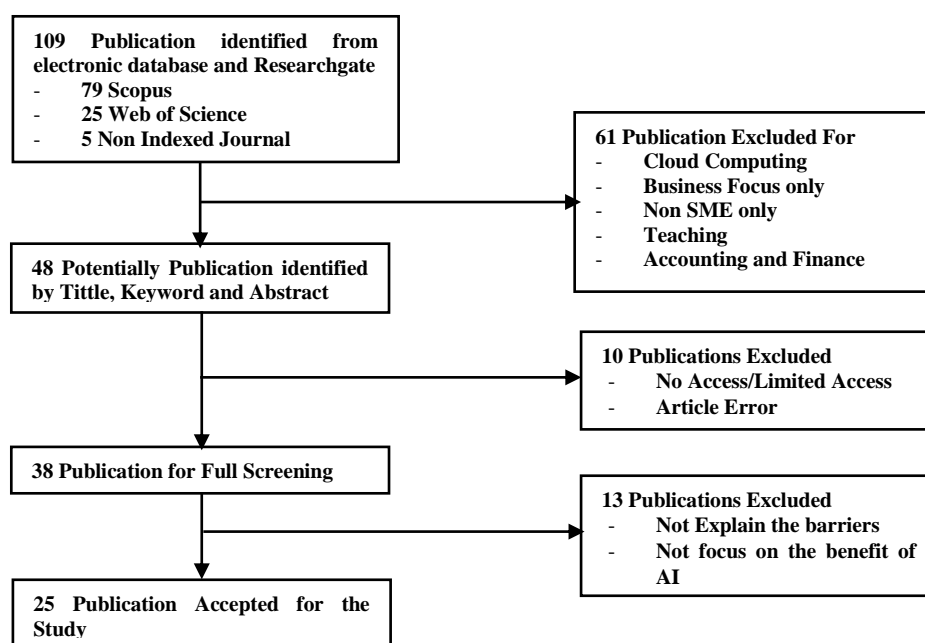


Figure 1: The systematic literature review approach

### 3. Methodology

This study is an exploratory research that helps understand what the issue is, and its key strategies include looking for various literature and interviewing experts in this field. The comprehensive interviews (unstructured) and semi-structured ones are suited for research in exploration (Saunders et l., 2009). This exploratory research method for this study is appropriate because it focuses on the unexplored phenomenon of why SMEs are unable to use Artificial Intelligence. The outcomes of the McKinsey & Company (2018) study, containing a survey on experienced Barrers for AI Adoption (BAR) indicate that "The lack of clear AI strategy," "Talent lack for AI work" as well as "Functional silos restrict end-to-end AI solutions" were the top three obstacles listed in the report. The latter obstacle is analogous to the theme "AI solution incompatibility with the legacy IT systems or processes of an



organization," which is established by this research. Factor that was also found in this research but not supported by adequate evidence to be included in this hypothesis was also "the inability of leaders to own and commit to AI" and "limited usefulness of data," respectively (most important barriers).

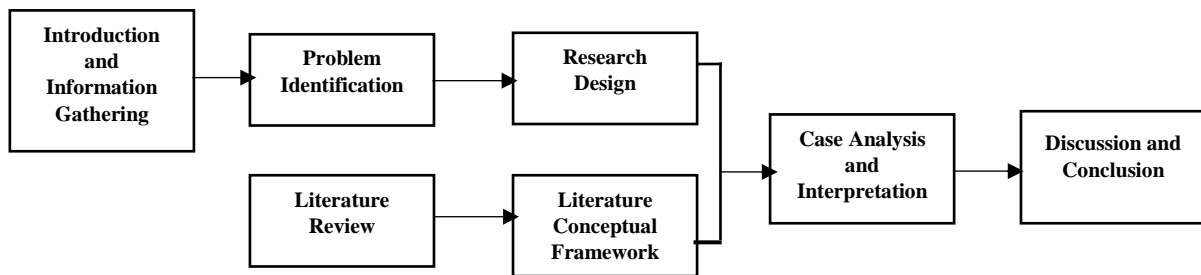


Figure 2: Mind Map of the Inductive Research

Although the study found that small businesses are grappling with conflicting goals and resource limitations, the research dealt with a related problem of "AI resource reduction in line organization." The element "personal judgment override AI-based decision making" could not be established, implying that human intuition is often thought to be more powerful than AI can currently provide. The survey is based on a strong sample of knowledge (recognized from organizations of all sizes) but doesn't mean what the study indicates, such as AI or technical skepticism,' 'dependence on external assistance' and the common feature of 'firefight' induced by resource constraints in SMEs. Due to the lack of teaching and training of end users, the inadequate link between adopted IT- and corporate-strategies, and the "Business size and fund restrictions for employing IT specialist," Ghobakhloo et al. (2012) reviewed IT adoption in midsize enterprises' literature. Several of these problems may be seen as a more systematic solution to the hypothesis's problems. Similar to 'insufficient training of employees,' the first reason given points out that employees have reason to worry about not knowing or being able to operate AI technology. The second explanation listed addresses the issue of "lack of clear business case and strategy" which is similar in the study. As already stated, the lack of a clear plan for AI implementation possibly contributes to a project failure in the literature review (Ghobakhloo et al., 2012).

Finally, the authors note that "the size of businesses and fund restrictions on IT experts" are crucial partly due to the fact that they have played a part in providing a business ability and may also represent hypothesis barriers including resource constraints, lack of IT competency



or knowledge and lack of IT expertise." Since the problems identified by authors were focused on practical experience rather than interpretation, this supports the practical implementation of some of the issues identified in the interviewees' data collection.

Some references to this research can be found in a conceptual structure for strategic assessment of SMEs' ICT readiness (Dyerson & Spinelli 2011). First, the framework's ideas of "intensity of ICT budget," "inner/external (ICT) competence," and finally, "ICT motivations" identify themselves as being driven to see advantages and prospects. They are clearly similar to those of the framework. The authors include the value of imitating rivals, something different from the findings of this analysis. Most possibly, this is due to the lack of external threats from rivals due to AI that most businesses interviewed have suggested. The comparison of the findings of this research with other research is difficult because the lenses and terms used to differ.

It should be noted that The writers, for example, stress the importance of 'infrastructure maturity' and the 'compliance maturity' for ICT adoption to resolve similar issues such as "Incompatibility of AI solutions with legacy IT structures or procedures of an organization" as this study will be used." These authors also indicate that the "supreme management engagement" and "the presence of a facilitator, who can convert organizational needs into ICT investment choices by demonstrating interest in ICT creativity, and by delegating appropriate resources is crucial. The "Presences of the facilitator," which may enable the facilitator to resolve these issues, are also important because of the "Clear advantages for an IA initiative" and "Lack of Clear Business Case/Strategy" obstacles in this report. The analysis points to the need to be both present and active in ICT initiatives in SMEs, an approach that demonstrated a certain resemblance to the theories described in this report, 'employees to lead or support an AI initiative' and owner's interests.

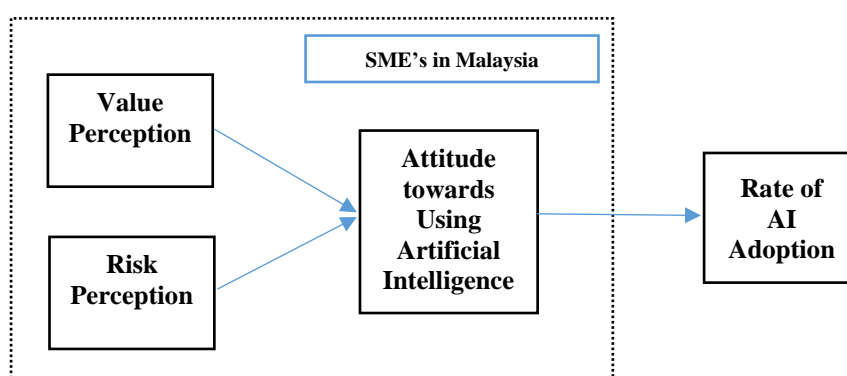
Many of the problems the hypothesis proposed are similar to results from other research on AI adoption or the adoption of technology in small and medium-sized enterprises. Still, the logic of interpretation varies from the technicalities or AI, as management viewpoints for the issue were selected. For example, Ghobakhloo et al. (2012) 's conceptual model focuses more on IT needs study, the provision of IT services and products, and the organizational readiness when dealing with the initial adoption of small and medium-sized enterprises. This study's theory and challenges are rooted more in factors influencing the understanding of adoption and coping with problems that deter or persuade policymakers. Similarly, the conceptual framework of Dyerson & Spinelli (2011) tests acceptance readiness on a strategic basis, based upon the IT maturity, which implicitly ignores, if their claims are considered, the assumption that





employees of an enterprise should be ready for the transition, issues with resource boundaries and the perception of risk factors.

In conclusion, this study hypothesizes that the management level is more holistic but less obvious, more technological constraints and challenges than the two design models described, may be more extensive. Warner & Wager (2019) propose several skills which play a role in the scouting and digital planning process. The authors provide ideas focused on capabilities like technological trend scanning, digitally designed strategies, and capable of interpreting digital scenarios for the future and scattered signals. The lack of knowledge of AI by organizations that "not follow the trends of AI" and "deficient understanding of AI's compared to these findings can be considered the absence of opportunity-identifying capabilities. What was not the product of this research was the long-term preparation essential to "interpret digital scenarios in the future." What was missing from this research was the long-term preparation needed to "interpret digital scenarios for the future." The small and medium-sized companies interviewed seemed to have more sensitive digital strategies, which typically draw SMEs more interest in digital innovation. The authors found that a digital strategy could be necessary for the adoption of AI. This research divided the opportunities and resource costs of an AI initiative into two different topics: "Unclear advantages of an AI initiative," which would add opportunities to the AI initiative, and "lack of clear business cases and policies." In similarity, the research found "change resistance" to be a key obstacle and "executive support" to be a significant engagement enabler. In this report, there was no adequate data evidence for inclusion in the topic "management support" findings. However, this was also described as a significant factor in the literature review.



**Figure 3: Research Framework of AI implementation Barriers in Malaysia**

The analysis described a range of topics not found in the research listed above compared to those authors. These issues include competitive goals, firefighting, the chance of losing



credibility and harming client connections, AI solution price' and 'mission or method that is difficult to streamline.

#### **4. Findings**

Company A and B is a growing firm, a fully determined sales company in Malaysia with a business culture, a strong customer concentration, low administrative burden, and short decision-making. Often workers do fluid tasks, and when they are only a handful, they need to support themselves and therefore make shortcuts across structured systems and processes. This company is innovative and open to "do not yet do" and has no previous experience in AI, and due to the lack of IT expertise and ability among its employees, its internal technical skills are limited. In Sweden, an outsourcing facility and back-office positions such as HR, accounting services, and storage services to external contractors shall cope with internal personnel's absence to serve operational purposes. The external IT department provides and maintains hardware infrastructure and servers, key foundation systems, including Customer Relationship Management (CRM) systems, ERP and Business Intelligence (BI) systems, and supports online businesses as well. However, the systems require some internal expertise to handle and function. For example, the CRM system varies in each market and must be used along with other customer systems, including IBX, a public e-trade platform for certain Norwegian markets.

Consequently, customer relations and product managers need to know how to use these resources. The company plans to evolve into a larger company, and more local resources are needed in response to this transition. The Director said that more product managers and expanded customer support are required, particularly local IT resources. The intelligent use of AI at the online shop could make such an extension possible. The Managing Director wishes to dispose of manual work through the online shop with chatbot and increase the customer use of the online shop. The Sales Manager stressed the possibility of developing the CRM and order management system and would like to see the ordering process more automated for both the Managing Director and the Sales Manager. Within a year or two, the Managing Director expects improvement.

C and D is a Malaysian corporation for the management of land and services. The organization's horizontal structure is flat, and its culture very transparent. Management and senior managers neither manage nor retain their workers at a contract, the business is free and accountable, and the office of management's policy is open to the public. The Company's



strategy is to expand to become a trendsetter on its market and become trusted and clear. Its operational management platform contributes significantly, through which customers have access to all photo documentation and invoices to ongoing and completed work. The platform was supplied by its IT supplier and its competitive advantage. In addition to the operational controller, who focuses mostly on the activity management platform, the company and its staff have little AI technology expertise. They are not highly skilled in advanced IT skills. The operational management platform is a smart one as it can schedule tasks optimally based on how much time a particular task and other variables are required, but not completely automated and less used since tasks are often unpredictable. It also provides the necessary details. The representatives claim that days are busy and operational, so there is no time to think about new technologies or inventions that have not always existed before. The organization actually does not have any tangible AI plans. In the past, the organization has been in touch with a few sellers who have put forward their proposals and ideas, but it has always proved too difficult or costly. The decision would depend on the two directors owning the company if the company were to invest in an AI solution, and they agree that the company should now concentrate on developing its real-time management platform rather than start-up another IT project.

Consequently, a theoretical AI solution will possibly be developed on the operational framework. Both respondents shared ideas about the use of IA-based technology. The operational framework will gather more information, allowing the organization to recognize trends, alert employees to wrong things, or put extra efforts into saving or increasing sales and maximizing relationships with its customers. Administrating and running processes or using robotics for lawn mowing and cleaning may also be optimized. However, the Manager for Connectivity and Human Rights said that the industry and its consumers might not yet be sufficiently mature for AI technology. The Operations Controller claimed that an appropriate AI investment would be paid off in a couple of years, not in 10 years and that an investment break will have to be completed in two years. The team involved will include the Communication & Personnel Growth Manager who is working as a mediator and Project Manager, the Operations Center that is supervising the organizational aspect of the project, and the two directors who are outstanding in strategic thinking if the company begins an AI project.

## **5. Discussion**



The research question's first goal was to clarify factors that discouraged small and medium-sized businesses from investing in AI. This research demonstrates the reasons that are considered obstacles found in the replies of the case, research paper, and company reviewed. AI is one of the main innovations driving the new revolution in technology. The next wave of digital transition is also venerated. But many businesses assume that before they deal with AI, they have to master the digital transformation. Most of the people do not realize that AI can be a digital accelerator. (Caruso, 2018) Often, AI can help solve or greatly accelerate many of the tasks that take time in digitization projects. For instance, computer vision can easily digitize, cluster analog data, and pre-sort. Digital networks are also faster populated. There are many reasons why businesses are hesitant. Few small and medium-sized companies are concerned about establishing themselves because this method is very costly, comprehensive, and always has a high risk of failure. Small and medium-sized businesses instead rely on AI as a service more and more and prefer cloud-based solutions. They concentrate here on manufacturing, distribution, and customer support deployments. This may also be attributed to the various prominent applications, in particular in the manufacturing and logistical environments, apart from a clear emphasis on SMEs' organizational processes. For small and medium-sized businesses, the use of AI is less likely. In terms of human capital, social skills play an important role. It is difficult, and even impossible, to substitute intuition with machinery or computer systems, particularly when evaluating social skills.

On the other hand, the number of submissions for advertised posts is always not too high for SMEs. In the selection process, therefore, there is less need for AI than for bigger firms.

Moreover there are also conceivable ethical issues about the use of AI in human resources. It is also striking that most of them are neutral with respect to AI, in particular in the field of R&D and marketing. Only a few do not think it relevant, given that some seem to ignore the issue for their marketing efforts. This also shows that many see a need for help in this field but do not know about particular cases of usage. Marketing, R&D, and their ingenuity and expertise are closely associated with humans. Thus, particular cases of usage are harder to envision. The recognition and definition of potential cases of use, on the one hand, and the influx of possible algorithms and platforms, on the other, are a major challenge for many small and medium-sized businesses. In these areas, effective use cases can also be further commercialized, and resources are required to enable small and medium-sized businesses to choose the most appropriate areas.



Results have shown further that obstacles perceived are contingent on SMEs' current status in implementation. Although one of the major issues is that of Pioneers name database, deniers feel that the absence of data is less important. As the problem of AI increases, it is fair to believe that the requisite database is rethinking. The reservation that the volume of data is essential for AI projects, where increasing information has been achieved, is substituted by the understanding that data quality is more important than a single quantity. The consistency of its underlying data is a crucial factor in any good AI. The most time-consuming activities in designing industrial IA applications, therefore, include data collection and data preparation. This also helps to overcome restricted data with high data quality.

In comparison, bad data is a hit in the production of advanced algorithms. This information must be accessible at an early stage so that effective implementation is not jeopardized. SMEs complain about the lack of know-how and sometimes face the problem of luring AI experts, and that's why AI is regarded as a large-scale technology, while there is a lot of potential. Therefore, small and medium-sized businesses also rely on international experts. It also helps to see the costs of AI projects as a big obstacle. However, while SMEs rely heavily on externals and use AI as a service applications more frequently, it is important for the own employees to understand how data can be treated, how problems can be planned and designed, and how to keep up with emerging opportunities. These qualifications must be established. Best for business every day. This also involves raising awareness of data security issues and regulatory requirements. All sectors must also lay down valid rules on confidentiality. Furthermore, it is important to develop an intuitive understanding of AI at the executive level in order not to lose SMEs leverage AI benefits.

Data from AI-based interviews with innovation experts highlight key problems in innovation management. Some of these concerns are AI-based solutions. The interviews show that the recent AI strategies have given significant importance to human factors, such as arrangements and contact with AI techniques. Furthermore, in successful IP innovation management, the availability of high-volume good quality data, particularly in SMEs, must be addressed. In the case of statistical technology based on past data, human understanding in IA and implementation and historical and semantical aspects are particularly important. The study was conceived to inform the national growth of Austria's AI strategy. Data may also be useful if innovation managers are searching for ideas for innovative AIs to consider the problems and opportunities of organizations. For example, to develop business models of business models with AI-related business models, handle AI-related innovation process expectations properly,



and gain further insight into historical data constraints and metadata expertise, these data reveal possible new themes of researchers' further analysis. The findings show that politicians who wish to foster AI-based innovation will concentrate on human resources, such as AI experts, and new working profiles, such as 'AI coaches,' who are experts in AI-based systems without actually developing new AI techniques. They also create new job profiles. Moreover, investment in explainable and trusted AI technologies should be sponsored by the research policies. Regulatory dimensions are aligned with the ability to work on new business models and the establishment of a straightforward and clear regulatory framework for innovation based on AI.

## **6. Conclusion**

The data obtained from AI-based innovation expert interviews illustrate crucial innovation management challenges. AI-based solutions are some of these problems. Interviews indicate that human factors, such as preparation and communications with AI techniques, should be given considerable importance within the recently released AI Strategies framework. The availability of high volumes of good quality data, particularly in SMEs, must be addressed in effective IP innovation Management. Human awareness in the field of AI and application and historical and semantic aspects are especially relevant in the case of statistical technology based on past evidence. The study was designed to inform Austria's national AI strategy growth. The data can also be useful to innovation managers who aim to understand organizations' challenges and opportunities looking to introduce creative AI solutions. The data reveals potential new topics of further study for researchers, for example, the development of business-model business models with AI-related business models, proper management of AI-related innovation process expectations, and further insight in historical data constraints as well as metadata expertise. The results indicate for policymakers who want to promote AI-based innovation that the emphasis will be on human capital, such as AI experts, and that new work profiles, such as 'AI-trainers' are also further established, who are skilled in AI systems without necessarily developing novel AI techniques. Moreover, research policies should promote investment in explainable and trustworthy AI technologies. Regulatory aspects are linked to the freedom to work with innovative business models and to establish a transparent and consistent AI-based innovation regulatory system.



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## Appendix

Topics	Question
<b>Attitude Towards Using Artificial Intelligence</b>	<ol style="list-style-type: none"> <li>1. What are the main reasons for why your organization has not yet engaged (more) in the use of AI?</li> <li>2. What problems or complications would immediately emerge if you were now to consider adopting AI?</li> <li>3. What would it take for your organization to consider AI technology?</li> </ol>
<b>Value Perception</b>	<ol style="list-style-type: none"> <li>1. What is your opinion on the potential benefits for using AI?</li> <li>2. Return on Investment – What would you consider to be a valuable AI investment?</li> <li>3. What would it take for AI to be considered interesting enough for your organization?</li> <li>4. What would convince you to favor a decision to adopt AI-technology in your organization?</li> <li>5. In what setting would you say barriers are low enough for you to engage with AI?</li> </ol>
<b>Risk Perception</b>	<ol style="list-style-type: none"> <li>1. What types of risks do you see when thinking about AI adoption in your organization?</li> <li>2. Are there any risks that you see being too high to be able to justify an AI initiative?</li> <li>3. What is your organization’s general behavior when being introduced to untested tech or unfamiliar tech?</li> <li>4. How do you perceive cost in terms of adoption AI, what would (not) be acceptable?</li> <li>5. Are there any negative perceived consequences that you might want to avoid when considering AI?</li> </ol>