

Exploring Artificial Intelligence Readiness Framework for Public Sector Organizations: An Expert Opinion Methodology

Wajid Ali*

PhD Scholar, Department of Technology and Project Management, International Islamic University Islamabad, Pakistan. Wajid.phdmgt123@iiu.edu.pk

Abdul Zahid Khan

Associate Professor, Department of Technology and Project Management, International Islamic University Islamabad, Pakistan. zahidkhan.fms@iiu.edu.pk

Fowad Ahmad

PhD Scholar, School of Management, Wuhan University of Technology, Wuhan, China. fowad.ahmad@whut.edu.cn, fowad.ahmad@pbm.gov.pk

Faisal Mahmood

Assistant Professor, Department of Graduate Studies-AUSOM, Air University Islamabad, Pakistan. faisal.mahmood@au.edu.pk

Corresponding author, Wajid Ali, Wajid.phdmgt123@iiu.edu.pk

Abstract

Public and private sector organizations are adopting artificial intelligence (AI) to meet the challenges of the fourth industrial revolution. An expert opinion methodology is utilized to investigate an artificial intelligence readiness framework for public sector organizations. The successful implementation of AI is a challenging task, and past research has advocated the need to explore key readiness before AI implementation. This research aims to identify the AI readiness factors that various experts from industries and public sector organizations have explored. Qualitative methodology uses and conducts semi-structured interviews from expert opinion in different public and private industries. NVIVO-12 is used for data analysis, and themes are developed through systematic coding. The main factors identified for AI implementation were related to people's readiness, strategies and policies, process readiness, technology readiness, and organizational environment. All of these factors should be considered before implementing AI in any public sector organization. The findings also indicate a high failure rate, which underscores the need for factors such as AI readiness to aid in the implementation of AI in any organization and mitigate the low failure rate. It will help the management develop an effective strategy for AI implementation in the organization by considering these factors.

Key words: Artificial Intelligence, Readiness, Framework, Public Sector.

1. Introduction

In the study's background, a lot of different words have been used to describe artificial intelligence, the concepts mentioned include intelligent agents, intelligent behavior, intelligent systems, machine intelligence, machine learning and algorithms. Previously, artificial intelligence (AI) was envisioned of as machines that could mimic human intelligence in terms of both thought and decision making (Frantz, 2003). Artificial Intelligence is a technological advancement with profound effects on economic, social, and political spheres. Artificial Intelligence allows computer systems to learn from their experiences, adapt to new inputs, and automate tasks usually done by humans such as analyzing visual information and making decisions. AI will transform many aspects of human life, just like the steam engine or electricity technology did in the past (Quan and Sanderson, 2018).

AI is widely recognized as a crucial catalyst for the fourth industrial revolution which is characterized by the advancement in technology that harnesses the power of digital, physical, and biological systems. Organizations will benefit from AI-powered transformation. Artificial intelligence (AI) has the potential to enhance profitability by an average of 38 percent across 16 different industries across 12 economies by 2035, resulting in an economic boost of \$14 trillion (Ekellem, 2023). As AI is expected to contribute 15 trillion USD to the global ecotours by 2030, many company leaders are excited and afraid about it (Yerlikaya & Erzurumlu, 2021). In the Middle East, artificial intelligence will have an effect by 2030. It is expected that AI will have an effect on the ecotour worth US\$320 billion, or 11% of GDP (Jain, 2018).

Artificial Intelligence readiness factors for planning organizations for the implementation in different public and private organizations. The US, China, and India will benefit from AI-driven economic growth (Srivastava, 2018). Based on a survey conducted by PWC, artificial intelligence can enhance global economic output by 14%, which is approximately USD 15.7 trillion (Rao, 2016). There will be a substantial impact on the ecotour and the specifically in the areas of financial services, manufacturing industries, supply chain industries, healthcare, and information and communication technology sectors as a result of artificial intelligence (Abdou & Kamal, 2018). Artificial Intelligence is one of the best and emerging technologies in current era. Public and private sector organization need to implement

this technology to meet the challenges of 4th industrial revolution. The implementation of such initiatives is a challenging task and according to (Fatima et al., 2022) there is a high failure rate for such initiatives. Artificial intelligence to help the finding information (Hariguna, and Ruangkanjanases, 2024) to improve the customer performance with AI and machine learning also helping with supply chain industries (Hafeez et al., 2023; Khan et al., 2023) and AI also working in emotional intelligence and project success (Ali et al., 2024).

The organizations ignored readiness aspect and initiated implementation faced lot of problems and ultimately resulted in failure (Nili et al., 2022; Sair et al., 2023). Researchers further highlighted the need of exploring readiness of such initiatives before implementation. The factors of readiness in the context of developing countries need to be explored. The successful implementation of AI is a challenging phenomenon for the senior management of public as well as private sector organizations. The implementation of AI without exploring readiness aspects resulted in failure (Jöhnk, 2021).

1.1 AI readiness

The readiness to study is determined by assessing the knowledge and abilities needed for new cognitive activity tasks. A hierarchy organizes the components, progressing from lower to higher levels of knowledge (Williams, 2019). Another definition from the (Rafferty et al., 2013) point of view was similar, with the idea of ready being a deceptive half-truth mainly because it transforms the readiness or offers possibilities for its development. Readiness has been discussed in the organizational change asserted that if a person is not prepared for a significant change, they will be resistant to change it (Wright, 2022). Although the concept of readiness has been around for a while, due to its complexity and nature, there is no consensus on what constitutes change readiness (Rusly et al., 2012). Although there are other definitions of change readiness (Rafferty et al., 2013), a typical definition is that it refers to "individuals' beliefs, attitudes, and intentions on the necessity of changes and the ability of the organization to successfully implement those changes. In recent literature reviews, organizational readiness for change is conceptualized in either an organizational or an individual perspective change (Adam & Hanafi, 2022; Rusly et al., 2012; Rafferty et al., 2013; Weiner et al., 2008). The organizational change as a new process of moving to different and implies the movement of any process change,

organization structure change, product change, or anything that affects the organization to operate differently or move to a new process change, be considered as organizational change. There are different types of readiness in the organizations: physical change of readiness, emotional change of readiness, experimental change of readiness, and knowledge change of readiness. According to the theory of organizational readiness change, resources availability, task demands, capabilities, and situational factors. Organization readiness has identified four elements that influence readiness for change, which are change content and context, internal process context, and the individuals involved (Weiner, 2009).

1.2 Need for AI readiness

The concept of readiness for change has garnered increasing attention compared to the concept of resistance to change. They argue that readiness for change greatly predefines the individual resistance to support for a change effort. These days, a significant portion of the literature on readiness for change addresses not only individuals but also the organization, discussing readiness for change as a phenomenon at the organizational level. Artificial intelligence is a promising and highly effective technology that can help businesses gain a competitive advantage. Artificial intelligence is rapidly affecting the global sectors (Najdawi, 2020). The majority of public organizations are preparing for AI implementation, and many public sector organizations are moving forward with it. However, Pakistan has a low readiness index rate, and we must first assess the readiness of public sectors that are planning to use AI. Readiness is used to reduce the failure rate of AI implementation. Sino Pak management faces different types of challenges during their adoption of AI processes. On the basis of the interviews with senior management and middle management and the available documentation, this research identified the AI readiness factors in this organization (Issa et al., 2022).

In recent years, consultants, decision-makers, and academics have focused on AI readiness. AI-ready refers to an organization's capacity to effectively implement and utilize AI technology in an approach that enhances the organization's value. The AI readiness aids in appraising and characterizing an organization's AI capabilities. It is intended to assist in the identification of cultural aspects related to AI adoption and to support the resolution of

significant barriers (Neumann et al., 2024). Organizational readiness refers to the capacity of an organization to smoothly and sustainably undertake a transition. Establishing behaviors, conditions, and resources that support successful organizational change achieves this (Leite et al., 2023). The state of having the necessary conditions and resources to facilitate a seamless and ongoing implementation of artificial intelligence is known as organizational readiness. Organizational preparedness refers to the extent to which an organization possesses a clear vision, a well-defined purpose for the intended transformation, and the necessary motivation and behavior to effectively adapt to the change. Organizational preparedness refers to the extent to which the organization's structure and management practices affect its capacity to effectively implement AI transformation (Kruse et al., 2019).

1.3 Problem statement

The realization of the AI value promise is contingent on a set of organizational conditions and factors that have received insufficient attention in academic research. Currently, there is a dearth of research on organizations' preparedness for AI. Few studies have examined the organizational aspects of AI deployment, including the integration of technology into organizational processes (Ransbotham et al., 2020). Previous research on the phenomenon, which makes use of the TOE framework (which stands for technological, organizational, and environmental), has shed light on the factors that influence the readiness of artificial intelligence (Alsheibani et al., 2019; Pumplun et al., 2019; Jöhnk et al., 2021). Conceptualize AI readiness and categorize them into five factors. To get a better AI implementation, it is important to differentiate readiness factors for AI adoption based on the organization's context and goals (Pumplun et al., 2019). They suggest doing more research by focusing on or contrasting specific industries like healthcare, banking, and finance and their needs, or by carefully looking at specific departments and use cases like HR and service. According to (Jöhnk et al., 2021) they also propose that it is essential to evaluate the readiness of organizations in relation to the context. Currently, there are only a few articles that address the suitability of healthcare organizations for AI readiness (Alami et al., 2021). However, the study of AI readiness at the

organizational level in terms of private and public organizations has remained underrepresented in the existing literature.

Therefore, public sector organizations must conduct an empirical investigation to determine their organizational AI readiness. This is a crucial step in guaranteeing the successful integration of AI, especially given the capital-intensive nature of public sector organizations. Research on AI readiness in the public sector can help prevent unnecessary investments and costly failures. This research greatly aids in the easy implementation of AI readiness factors, which are explored through the expert opinion methodology used in public sector organizations.

1.4 Research questions

The present study focuses on the following research question.

Q1: What factors did previous research investigate to determine the readiness of artificial intelligence?

Q2: What are the key factors identified through expert opinions for artificial intelligence readiness?

Q3: What framework have experts recommended for AI readiness in public sector organizations?

2. Literature Review

According to (Williams, 2019) the concept of readiness for change is crucial to the process, highlighting the human element as the fundamental key resource for the success of any change within an organization. Businesses should consider individual readiness for change if they are serious about their change initiatives succeeding. Therefore, it is crucial for the change process to actively and significantly incorporate the individual's preparedness for change. The key goal of the change initiator or change agent is to ensure that all participants share similar thoughts and feelings. Understanding the necessity of change is the first key aspect of successful organizational change, and according to (Rafferty et al., 2013) this stage of the change model explains the justification and mental processes that underlie a necessary change. The awareness stage includes understanding the macro and micro, external and internal organizational change push factors that have led to the need for change. These change push elements have sufficiently emphasized the necessity for change, ensuring full awareness among participants (Rafferty et al., 2013).

2.1 AI Organizational readiness

2.1.1 Technology adoption and organizational readiness

Adoption of innovation has been studied at either an individual level or at a firm level (Oliveira & Martins, 2011; Aboelmaged, 2014). Innovation adoption theories: Diffusion of Innovation (DOI) theory, Technology Acceptance Model (TAM), Theory of Reasoned Action (TRA), and the Theory of Planned Behavior (TPB) have been widely used in IT innovation adoption studies. Among these theories, a study suggests that DOI was used more extensively in studies that performed organizational analysis, whereas TAM, TRA, and TPB were used primarily for individual-level analysis. Moreover, the TOE framework has been comprehensively approved for organizational-level studies of IT innovation adoption (Hameed et al., 2023). Three stages are involved in innovation adoption: initiation, adoption decision, and implementation (Bakkabulindi, 2014). For organizational level analysis, (Baker, 2012) proposed a framework for technological innovation decisions that considered technological, organizational, and environmental factors. This model is known as the technological organizational and environment (TOE) framework, and it has become a useful approach for investigating factors influencing IT adoption in organizations. According to (Hameed et al., 2012) proposed a conceptual model for the IT innovation adoption process in an organization by integrating innovation adoption theories with the popular frameworks. In consonance with technology adoption antecedents, research from various disciplines discusses the concept of organizational readiness for change which is a precursor to the successful implementation of complex changes (Weiner 2009). Several IT readiness models have been proposed and applied to improve competitiveness and maintain resources efficiently (Alshawi, 2007). As depicted in Figure 1, the current literature also discusses digital readiness with respect to the adoption of digital technologies. It is essential that the different factors involved in building digital readiness are developed over time, not just a one-time move. (Lokuge et al., 2018).

2.1.2 Typical readiness factors and characteristics

As AI organizational readiness is quite an emerging research field, relevant literature is limited. Existing readiness factors are mainly extracted from three articles (Alsheibani et al., 2018; Pumplun et al., 2019; Jöhnk et al., 2021) and one article in AI readiness in healthcare (Alami et al., 2020).

- The literature also takes this into consideration (Alsheibani et al., 2018; Pumplun et al., 2019) both mention “relative advantage” that refers to the need of using AI compared to other technologies. They both mention “**compatibility**” which refers to “the fit between the desired application and technology”. According to (Alsheibani et al., 2018) propose “Compatibility between the AI business case and an organization’s existing strategies positively influences AI readiness” and (Pumplun et al., 2019) propose “Compatibility between AI technology and business processes as well as the development of a dedicated business case” positively influence AI readiness in companies.
- Similarly, (Jöhnk et al., 2021) propose “AI- business potentials” which means the use of AI in an organization should be beneficial and suitable. What’s more, (Alami et al., 2020) propose “**needs and added value assessment**” to avoid the negative effects AI may bring to the organization. One thing that shares in common here is that AI should be deployed with a clear business case (the need to use AI and associated business value) in mind beforehand.
- According to (Alsheibani et al., 2018; Pumplun et al., 2019; Jöhnk et al., 2021) all mention “**top management support**” as a factor that can positively influence AI readiness as a top leader can coordinate resources to facilitate AI deployment.
- According to (Alsheibani et al., 2018) propose “**human, enterprise and technology resources**” are important resources to adopt an innovation and also (Pumplun et al., 2019) propose three pillars in resources that are budget, employees, and data. In the **data dimension**, data availability, protection, and quality are considered.
- According to (Jöhnk et al., 2021) list three factors in the resources dimension which are financial budget, personnel, and IT infrastructure, and put data in a separate dimension that includes data availability, quality, accessibility, and data flow.
- According to (Alsheibani et al., 2018) propose “**firm size positively influence AI readiness**”. However, (Pumplun et al., 2019) find “it is unclear whether larger companies have a better chance of adopting AI” and “organizational structure” influences the adoption of AI in companies instead. More specifically, they think a bureaucratically structured organization will hamper AI readiness.

- According to (Pumplun et al., 2019; Jöhnk et al., 2021) both mention the “**business process**” aspect of AI readiness and also (Pumplun et al., 2019) propose “compatibility between AI technology and business processes (e.g., agile forms of work)” can have a positive effect, (Jöhnk et al., 2021) mention “**AI-process fit**” and propose “AI-based systems are more precise if processes are structured and provide standardized data input”.
- According to (Pumplun et al., 2019; Alami et al., 2020; Jöhnk et al., 2021) all mention “**change management**” is important to develop an innovative culture in the organization and let related stakeholders embrace AI. What’s more, (Alami et al., 2020) think “**appropriate training**” may be involved in building organizational readiness and similarly (Jöhnk et al., 2021) mention “**AI awareness**” and “**upskilling**” that aim to provide employees with sufficient AI knowledge and skills.
- Regarding environmental readiness, (Alsheibani et al., 2018) propose “**competitive pressure**” and “**government regulations**” are positive factors on AI organizational readiness.
- Regarding to (Pumplun et al., 2019) find “**government regulations**” as a negative factor as strict laws on data processing and pressure from employee councils can impede the implementation of AI. Moreover, they propose “Industry-specific properties, e.g., specific regulations, customer group)” can have either positive or negative influence.
- According to (Pumplun et al., 2019; Jöhnk et al., 2021) both find “**customer readiness**” as important but they focus on different aspects and (Pumplun et al., 2019) propose “demanding customers will nudge the companies to design individualized, intelligent products” while (Jöhnk et al., 2021) propose “organizations need to prepare customers by forming adequate expectations”.
- Additionally, (Jöhnk et al., 2021) propose several new AI organizational readiness factors that are not mentioned in previous readiness literature such as “**AI ethics**” to avoid discriminative results, “**collaborative work**” to combine different skillsets of employees.
- According to (Alsheibani et al., 2018) propose “**human, enterprise and technology resources**” are important resources to adopt an innovation and suggested by (Pumplun et al., 2019) propose three pillars in resources that are **budget, employees, and data**. In the data dimension, **data**

availability, protection, and quality are considered and suggested by (Jöhnk et al., 2021) list three factors in the resources dimension which are financial budget, personnel, and IT infrastructure, and put data in a separate dimension that includes data availability, quality, accessibility, and data flow.

2.2 Theory of organizational readiness for change

According to (Weiner, 2009) that significance of adopting Change management experts has pointed out how important it is for an organization to be ready for change. They have also given a number of ways to make an organization ready for change. The ability of an organization to adapt to change and the creation of a theory explaining its causes and effects. Organizational readiness for change is determined by the extent to which all members appreciate the change and positively evaluate the three key drivers of implementation capability, namely task needs, resource availability, and situational factors considerations. All of these factors are required for organizations to change their implementation capability. Further measurement development and accurate sampling choices would be needed to test the notion (Weiner, 2009).

3.3 Organizational key readiness factors for artificial intelligence

Table 1. Key readiness factors for Artificial Intelligence

Factors	Organizations AI Readiness Factors	References
1 Strategic Alignment		
Vision and Strategy	In a strategic roadmap, there are specific, attainable goals and targets relate to processes that how ready an organization is to adopt artificial intelligence.	Crews et al., 2019; Lokuge et al., 2019; Mahroof et al., 2019
AI-Process Fit	Artificial Intelligence AI adoption in which organizations require process readiness.	Johnk et al., 2021; Watson et al., 2019
AI-Business Potentials	Organization ready to flexible and AI functions business potentials demand.	Hofmann et al., 2020; Pumplun et al., 2019; Shahrabi and Pare, 2017
Top Management Support	Organization needs to strong strategy from top management support for artificial intelligence implementation.	Baslom & Tong 2019; Gartner, 2017; Lokuge et al., 2019
AI Policy	From the government's Artificial Intelligence initiative, organizations readiness requires AI-Policy.	Borges et al., 2021; Dwivedi et al., 2021; Schiff, 2022
2 Resources		
Financial Budget	For an organization is required a strategic roadmap of the	Alsheibani et al., 2019;

	financial budget for adopting AI and overcoming challenges in the internal system.	Hummer et al., 2019; Pumplun et al., 2019
Availabilities Resources Humans and Technical Resources	Adoption of AI requires the availability of internal and external organizational resources.	Ransbotham et al., 2017; Weiner, 2009
	Organizational readiness requires the availability of two key resources: technical and human resources for AI.	Duan et al., 2019; Dwivedi et al., 2021; Spector et al., 2019; Wirtz et al., 2019
3	Organization Structure	
Organization Size	Organizational Structure Size has a stronger ability to adapt artificial intelligence technology.	Aboelmaged, 2014; Duan et al., 2019
Organization Capabilities	Organizations have the capacity to drive innovation for AI adoption.	Mikalef, 2023; Weber, 2023
4	Data Management	
Data Availability	Organizations require data availability within internal systems for AI readiness solutions.	Agrawal et al., 2018; Kruse et al., 2019
Data Quality	Organization requires to quality of data for Artificial Intelligence implementation.	Kruse et al., 2019; Schwabe, 2024
Data Accessibility	Organizational Readiness has easy data accessibility for AI specialists to create new prototypes and develop AI solutions.	Catalyst, 2020; Intel, 2018; Iansiti & Lakhani, 2020; Pumplun et al., 2019
Data Governance	The organization have data management controls (consistency, accuracy and completeness) for AI implementation solution.	Agrawal et al., 2018; Groopman, 2018; Kruse et al., 2019
5	Knowledge	
AI Awareness	Organization readiness to AI awareness to the employees easily understanding toward AI.	Agrawal et al., 2018; Hofmann et al., 2020
Upskilling	Organization's awareness that employees can easily understand how to get ready for AI.	Davenport, 2018; Groopman, 2018; Kruse et al., 2019
6	Technological	
Organization IT Infrastructure	Organizational readiness necessitates the availability of IT infrastructure for AI related initiatives.	Groopman, 2018; Intel, 2018
Multi-Disciplinary Team	Organizational readiness requires the best team of AI experts for implementation.	Wärnestål, 2021; Ystgaard et al., 2023
Compatibility	Organization have Compatibility refers to the ability to provide value and experience while addressing the needs of the expected AI transformations require strategies.	Bremser, 2018; Chui, 2017; Yang et al., 2015; Yan, 2009; Zahi, 2010

7 Environmental		
Collaborative Culture	Organizational preparation has overall facilitated in the complete environment and knowledge exchange across the department level for AI Initiative.	Kruse et al., 2019; Pumplun et al., 2019
Innovativeness	Organizational readiness must improve employee commitment to change AI adoption.	Kruse et al., 2019; Pumplun et al., 2019
Government Regulatory Issues	Organizational requirement to government policy has been identified of the factors influencing for AI.	Ferretti, 2022; Harvey et al., 2021

In Table 1 various literature reviews categorize the organization readiness factors for artificial intelligence structure into seven categories, which outline the action categories and prerequisites for an organization's readiness to adopt AI. These groups provide a specific model for organizational elements necessary to create an AI-ready environment. AI features provide additional justification for each factor's organizational importance. The literature review on typical AI organizational readiness factors has its limitations. We primarily extract factors from the three aforementioned articles, given the scarcity of existing literature on this topic. This literature review solely examines readiness literature on "AI," excluding literature on big data analytics that may share common factors (Pumplun et al., 2019).

3. Methodology

This study employs a qualitative approach to address the research questions outlined in the introduction, requiring a variety of research strategies. The first research questions necessitate a comprehensive literature review of organizational readiness frameworks and their associated readiness factors, while the second question seeks the expert opinion of industrial experts regarding AI readiness factors for public sector organizations. The third question also requires research and expert opinion to identify AI readiness factors and develop the AI readiness framework use cases in public sector organizations. We will conduct an in-depth case study for the three questions, focusing on the equipment of public sector organizations within the context of Pakistan. We can determine empirical AI organizational readiness factors based on the case study results. This allows us to generate a conceptual framework for AI organizational readiness, which will address the main research question. The research methodology process

outlines the conceptual framework for AI readiness research. It entails studying the methods used in your field, as well as the theories or principles behind them, in order to develop an approach that matches your objectives. Methods are the specific tools and procedures you use to collect and analyze data, such as in-depth interviews, documents, reports, organizational drafts, and various articles, which are used to develop the nodes in NVIVO for analysis (Saunders et al., 2012).

3.1 Sampling techniques

The sample is a subset of the population used to draw inferences about the population (Kothari, 2004). The participants were chosen using the purposive and snowball sampling techniques for the current study. According to (Rai & Thapa, 2015) Purposive sampling is a non-probability sampling technique that is most commonly utilized when a researcher needs to understand the participant viewpoint. Additionally, purposive sampling also allows researchers to intentionally pick a group of people who have information on the problem under investigation (Walker, 2012). So, we also chose a group of individuals who are directly involved in the exploring the organizational readiness factors for artificial intelligence (Draper & Swift, 2011).

3.2 Purposive sampling techniques

In this study, the researcher employed the purposive sampling technique to collect specific information through expert interviews. Among the numerous inputs from various organizations, the researcher invited specialists from both academia and industry, each with a diverse background in expertise. The researchers specifically select the respondents using purposive sampling techniques. This research method limited the respondents to specific types of professionals who were best suited to provide the necessary information about AI readiness factors (Sekaran, 2016).

3.3 Sample Size

According to (Walker, 2012) saturation defines the purposeful sample size. The appropriate sample size is the one that can answer the study questions. As said (Dworkin, 2012) identified that the number of participants required to achieve saturation in a qualitative study could range from 5 to 10. According to (Guest et al., 2017) the researcher can achieve saturation within the first six interviews. In qualitative studies, the sample size is typically smaller than in

quantitative studies, as data for case studies can originate from various sources such as interviews, documents, direct observations, and participant observations, thereby eliminating the need for a larger sample size (Dworkin, 2012). Therefore, for the current study, we conduct an adequate number of formal and informal interviews with top, middle, and lower management, as well as the head, CEO, IT/operational organization, AI center research engineers, professionals' network, technical specialists, data governance specialists, project planning managers, and team members. This is done to collect data for each case involved in the organizational readiness for artificial intelligence (Cassell & Symon, 2004).

3.4 Experts interview

Table 2. Expert opinion interviews

ID	Organization	Designation & Experience	Interview Duration
E1	National Centre of artificial intelligence	Head, NCAI, 15+ years' experience	35 Minutes
E2	National Centre of artificial intelligence	Software engineer 5+ years' experience	27 Minutes
E3	Blue AI Technologies	CEO, BAIT, 15+ years' experience	32 Minutes
E4	Quid-e-Azam University Islamabad	Head IT Center of Excellence, Associate Professor, artificial intelligence, 10+ years' experience	28 Minutes
E5	Ministry of industries & Production	Planning Director, 20+ years' experience	52 Minutes
E6	Centre of excellence & artificial Intelligence Islamabad	Professor, artificial intelligence, 15+ years' experience	28 Minutes
E7	Centre of excellence & artificial Intelligence Islamabad	Associate Professor, AI, ML, Cloud Computing 12+ years' experience	32 Minutes
E8	Centre of excellence & artificial Intelligence Islamabad	Senior Technical Program manager, 12+ years' experience	26 Minutes
E9	Comsat University, Islamabad	Associate Professor, computer Science, AI, 15+ years' experience	34 Minutes
E10	Comsat University, Islamabad	Associate Professor, IT, AI, 15+ years' experience	18 Minutes
E11	Pakistan Telecommunication, Data center.	Director data analyst, 20+ years' experience	39 Minutes
E12	National University of science & Technology (NUST).	Associate Professor, IT, AI, 15+ years' experience	47 Minutes
E13	Sino Pak for artificial Intelligence research Center	Associate professor, 15+ years' experience	38 Minutes

E14	Sino Pak for artificial Intelligence research Center	Head of Center of artificial intelligence, 10+ years' experience	41 Minutes
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3.5 Experts interview process

We gathered and transcribed data, following the expert's advice, and discovered new readiness factors for artificial intelligence in the public sector. Therefore, in-depth interviews to find out what is happening and to understand the context around the particular factor are vital. For this reason, a restriction on the number of factors is required, and expert interviews enable the researcher to select the manageable number of readiness factors for artificial intelligence in public sector organizations. Firstly, the author came up with the expected readiness factors based on existing readiness studies. The experts assisted in revising or eliminating those factors based on the significance of artificial intelligence in public sector organizations. The expert's analysis led to the combination of the newly identified readiness factors with those from the literature research, resulting in a model suitable for case studies. Similarly, the researcher revisited the literature to find valid theoretical underpinnings to support new readiness factors that emerged during this empirical research, previously unrecognized from the literature review. In this way, the researcher was able to simultaneously ensure the research model's theoretical and empirical relevance and parity. If the theory of organization readiness change is empirically tested within case studies and contains an unmanageable number of factors, it would be challenging to obtain detailed answers during case interviews due to the limited interview time. We conducted interviews with various experts from both the industry and academia to identify novel metrics for assessing organizational preparedness. We interviewed experts from academia who have made significant contributions to artificial intelligence publications, and industry specialists possess extensive experience in transitioning organizations from manual to digital systems. We will conduct expert interviews on data governance, business (technical analytics), AI project planning, and data integration.

3.6 Data Collection

We also use a semi-structured interview as the primary data gathering approach. This technique allows respondents to freely share details about their lives within a thematically organized

framework and assert that this approach is effective for conducting interviews, provided it encompasses all the information requested in each case. The case expert interview process informant will begin by inquiring about the most crucial organizational readiness factors for public sector organizations artificial intelligence implementation. Consequently, the researcher asked the interviewees about their personal experiences with AI and whether they believed the researcher's anticipated major readiness factors significantly influenced the adoption of AI within the organizations. We recorded and transcribed the interviews to analyze the gathered data (Saunders et al., 2012).

3.7 Data Analysis

After data collection we will be the transcripts the data in English language. The reason is that data analysis through different content analysis and develop themes of English language text. Data analysis through NVIVO-12. After collecting data from various organizations, we concentrate on coding the collected data. We apply thematic coding to the analysis. When coding the data for the current study, we focused on the underlying meaning of the information rather than the substance. We use regular codes to generate descriptions and themes for data analysis. Coding involves the process of classifying and labeling your qualitative data to identify different themes and their relationships. In the current study, the systematic coding approach focuses on thematic analysis, which extracts themes from a text by analyzing the word and sentence structure. Previous research may drive these codes, or you may already be aware of the themes you wish to explore (Saunders et al., 2012).

4. Results

The research component focuses on examining AI readiness using a combination of literature factors within the context of public sector organizations. Essentially, our focus is on examining the factors that contribute to AI readiness for future planning, leading us to discuss the state of AI readiness in public organizations. During the research phase, we identified the most crucial readiness factors for artificial intelligence implementation in various public organizations through empirical research. Consequently, we determined five crucial readiness factors that can foster successful AI implementation in the context of public sector organizations: We identified the following five key readiness factors reparent the fig. 1 and 2: (i) People readiness; (ii)

Strategy and policies; (iii) Process readiness; (iv) Technology readiness; and (v) Organizational environmental readiness. At the end of this chapter, we develop a formative construct of organizational readiness for artificial intelligence, using these factors as sub-constructs.

4.1 Word cloud for organizational readiness



Figure No.1: Organization Readiness World Cloud

4.2 Major key readiness factors for artificial intelligence

Organization AI readiness is influenced by major factors such as people's readiness, strategies and policies, process readiness, technology readiness, and organizational environment. Organizations consist of fundamental elements, but they also have subfactors. Public sector organizations primarily utilize expert opinion methodology to investigate AI readiness factors. These principles and factors are impactful for public sector organizations interested in AI implementation. Public sector organizations have the potential to conduct a readiness level

check for AI implementation. Experts have suggested principles for AI readiness, but they have also suggested additional subfactors that align with the readiness of public sector organizations.



Figure No. 2: *AI-Readiness factors*

4.3 People readiness

In developing countries, people's readiness is more important, according to the experts. People's readiness is an individual's state of preparedness to accept, adopt, and effectively use new technology, process, or behavior. It is often used in organizational change initiatives, such as implementing new software, rolling out a new company-wide policy, or revitalizing business processes. In public sector organizations, people have many resistances to change, so in the context of this study, expert opinion suggests that people's readiness is important.

Said senior management:

.... organization has commitment to literacy rate improve like skills improvement. Our organization conduct different workshops and seminars to trains an integral component of an organization's program development.....(ER-1)

As said other senior Head of management...

People play a crucial role in every sector when introducing AI into any organization. Therefore, we can effectively incorporate all relevant factors related to people and divide them into separate categories without any issues...(ER-4)

Similarly said another CEO and prof.

Whether *people* are ready for AI is crucial for any organization, so we first assess their readiness before effectively incorporating all relevant factors related to their readiness and suggested factors Awareness & Skillset, to in which subfactors (Employee AI Literary to promoting AI literacy and Multi-Disciplinary Team to Desired Skillset Availability) and other AI readiness factor Training Plan, to in which (Technical Employees Training/ Upskilling Plan and All Employees AI-Usage Training (Upskilling/ Reskilling) Plan).(ER-3,6,7)

Similarly said another CEO and prof.

..... In public sector organizations, the adoption of AI is crucial for any technological change. There three senior management experts have aligned the readiness factors, Awareness & Skillset factor, which includes subfactors such as Employee AI Literary, which promotes AI literacy, and Multi-Disciplinary Team, which ensures the availability of desired skillsets. Additionally, I have created a Training Plan, which includes the Technical Employees Training/Upskilling Plan and the All Employees AI-Usage Training (Upskilling/Reskilling) Plan..... (ER-9, 10, 12).

Similarly said another technical member.

..... Various senior technical members have suggested different categories for AI readiness factors, including people's readiness awareness, & Skillset Spread (Employee AI Literary), Multi-Disciplinary Team (Desired Skillset Availability). Training Plan (Technical Employees Training/Upskilling Plan, All Employees AI-Usage Training (Upskilling/Reskilling) Plan)..... (ER-8, 13).

In our experience, your most important readiness factor for AI is to enlist.

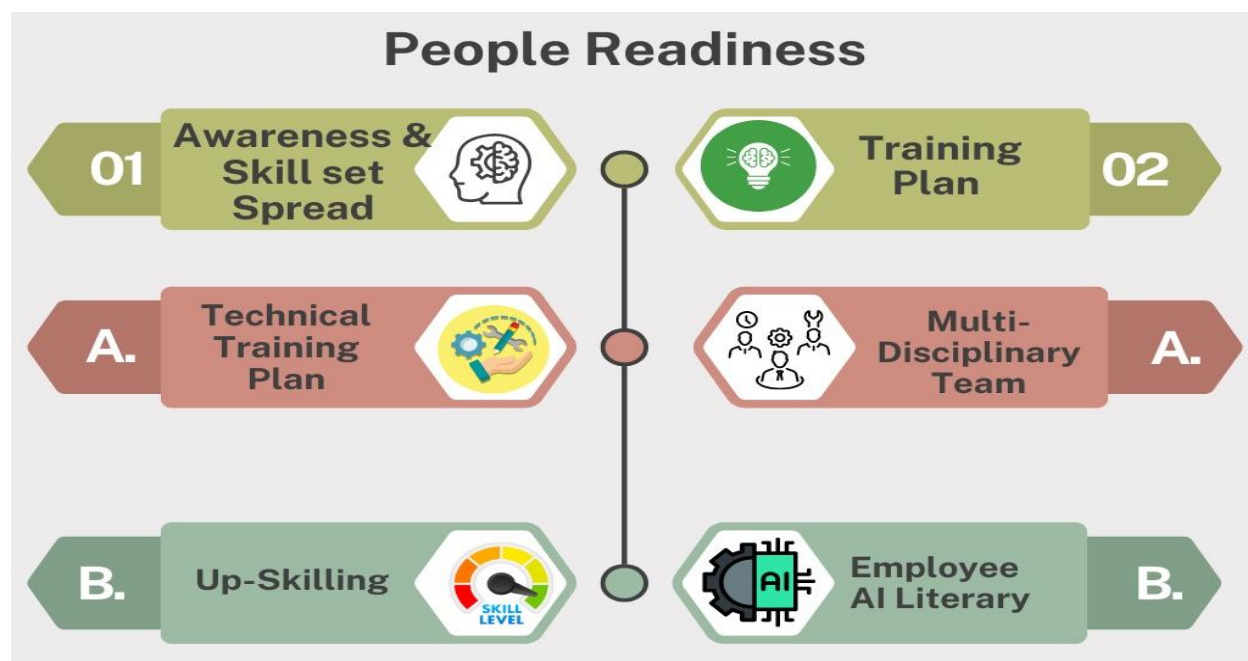


Figure No. 3: People readiness factors

In Fig. 3 organizations in the public sector need to prepare for AI before they can commit an employee. People's readiness is crucial in both public and private sector organizations, particularly in public ones where people often resist change. Therefore, we must first raise awareness about AI before implementing it in any organization. Experts align all factors for organizational change in order to implement AI.

4.4 Strategy and Policies

Strategy and policies play a crucial role in ensuring AI readiness and organizational success. The vision and strategic goal refer to the formulation of achievable targets that specific organizations expect from artificial intelligence, along with a strategic roadmap leading towards these targets. Artificial intelligence often brings excessive promises; it is prone to exaggerating its business value. Moreover, the absence of a strategic roadmap towards artificial intelligence implementation would prevent companies from reaping the bigger business value and sustaining a long-term competitive advantage (Pyle & San Jose, 2015).

As senior said Head of management...

.....*Strategy and policies* play a significant role in an organization's readiness for change, which is why we recommended focusing on leadership and vision subfactors, including a clear vision and strategic goals regarding the future of AI, as well as top management support.....(ER-1, 3, 8).

Similarly said CEO and Prof...

.....Various senior authorities have suggested the importance of AI readiness factors in organizational strategies. Without these strategies, any change is impossible. Therefore, strategy plays a crucial role in implementing AI, including organizational AI strategies, change management strategies, and implementation risk mitigation strategies.....(ER-4,6,12).

Similarly said technical member and Prof...

..... Various senior management recommended strategies, including the organizational AI-plan, the transition plan, and change management. The strategy for major organizational changes is being implemented. Risk Mitigation Strategy risk is based on technological risk, whereas communication strategy is based on routine organizational strategies.....(ER-7, 9, 13).

Similarly said technical member and Prof...

..... Almost all senior management recommended this category of AI readiness factors for public sector organizations, which are *strategy and policies*, Leadership & Vision (Organization Vision & Strategic Goals, Top Management Support (including Stakeholders Buy-in)), Strategy (Organizational AI-Strategy, Transition and Change Management Strategy, Implementation Risk Mitigation Strategy, Communication Strategy), Policies & Guidelines (Organizational AI Policy , Responsible AI-Usage Guidelines (will also include privacy & ethical considerations, Government Regulatory Compliance and Legal Framework), there are basically develop the model.... (ER-5, 10).

In our experience, your most important readiness factor for AI is to enlist.



Figure No. 4. *Strategy and polices factors*

In Fig. 4 illustrates the strategies, policies, and frameworks that are available for the implementation of artificial intelligence. Secondly, strategy and policies play a significant role in the implementation of AI, encompassing all its subfactors. Most experts' opinions suggest three categories for AI implementation: leadership and vision, strategy, and policies and guidelines. Since no government organization has provided any policies or regulations regarding AI, this implies that they are responsible for developing their own internal policies regarding AI implementation. The majority of participants asserted that policy plays a crucial role, with organizations requiring an AI policy to govern the use of AI in the workplace, avert legal infractions, safeguard sensitive data, oversee quality and accuracy, minimize bias and discrimination, encourage accountability, and cultivate employee trust.

4.5 Processes

Processes describe the necessary linkage between an organization's AI strategy and its processes to increase AI readiness. Changes accompanying AI adoption always affect an organization's processes. In this context, a mature process landscape, characterized by standardized and

structured processes, facilitates business process alignment and integration, reflecting an organization's compatibility with AI (Watson et al. 2019).

Said Prof and Head IT,

.....*Process is a different factor in which process or organization relays the integration, designing, and internal external processes of business. Therefore, I have aligned the factors that contribute to AI readiness for public sector organizations. Processes are a major factor that includes business process alignment, business process design, AI-business process integration.....(ER-3,6,11).*

Similarly said another head and prof

.....*Processes are a major factor that includes business process alignment, business process design, AI-business process integration and sub-major factors of External Parties Interaction Readiness, Partners, Suppliers, Financiers Readiness, Customer Readiness.....(ER-1, 2,9).*

Said Prof and CEO

.....*In our experience process is main factor and sub-major factors of External Parties Interaction Readiness, Partners, Suppliers, Financiers Readiness, Customer Readiness.....(ER-4,7,12,14).*

In our experience, your most important readiness factor for AI is to enlist.

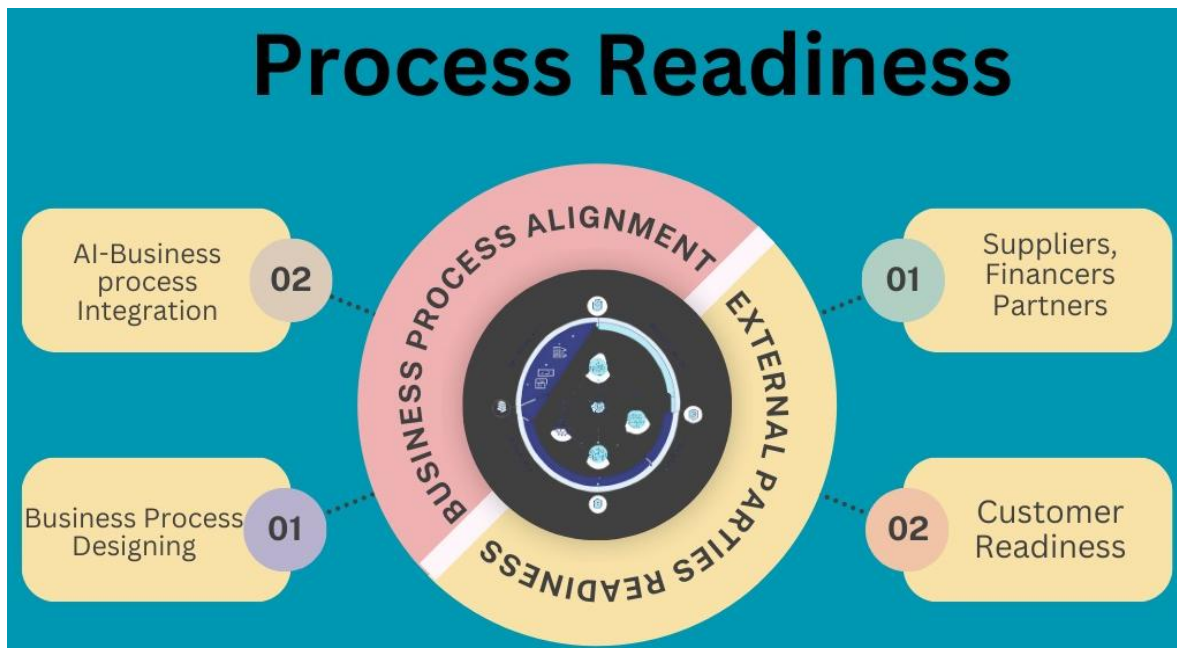


Figure No. 5: Process readiness factors

The majority of specialists in Figure 5 believe that processes are essential for the integration of AI. The key factors of the process are not properly aligned, resulting in their inability to be readily processed and streamlined. In any business process, AI implementation is essential. Additionally, as indicated in the antecedent process factor, we adjust the process factors to ensure that they are consistent with all management and integration processes. AI integration is impossible without process factor alignment, which is critical for AI readiness. We divide process readiness into two categories: business process alignment and external party interaction readiness. The business process alignment has two sub-factors: business process design and AI-business process integration. The second factor is external parties' interaction readiness, which includes partners, suppliers, financiers, and customer readiness. Most expert opinions agree with this alignment of process readiness for AI readiness.

4.6 Technology Readiness

This factor defines technology readiness as the organization's IT infrastructure (cloud, security, hardware, and software) and data governance readiness (data availability, data quality, data accessibility, and data platform). Technology readiness levels are a method for estimating the maturity of technologies during a program's acquisition phase. Technology readiness allows for consistent and uniform discussions of technical maturity across different types of technology, such as data governance and organizational IT infrastructure (Uren, & Edwards, 2023).

As said one of top management;

.....In next factor is data management in which sub factors is data quality, data accessibilities, data availabilities, data governance and Technology Infrastructure Readiness is different sub factor for AI readiness.....(ER-1,7,12).

Another head and prof said;

..... In our experience, data governance encompasses a wide range of data types. Data governance encompasses a wide range of data types, including security data, data management, data operating platforms, and data policies, making it a significant area of governance.....(ER-2,5,14).

Another prof and technical member said;

.....In our experiences, there are cloud-based systems, and the factor is technology infrastructure readiness. Subfactors are IT infrastructure (hardware, cloud, security, etc.), digital applications & systems, and technology partnerships.....(ER-4,6,8,14).

Another Prof and IT head said;

..... Data governance, which encompasses data availability, data quality, data accessibility, and data platforms, plays a significant role in our experience. **Technology Infrastructure Readiness** (IT Infrastructure (Hardware, Cloud, Security, etc., Digital Applications & Systems, Technology Partnerships) (ER-5,9,11,13).

In our experience, your most important readiness factor for AI is to enlist.

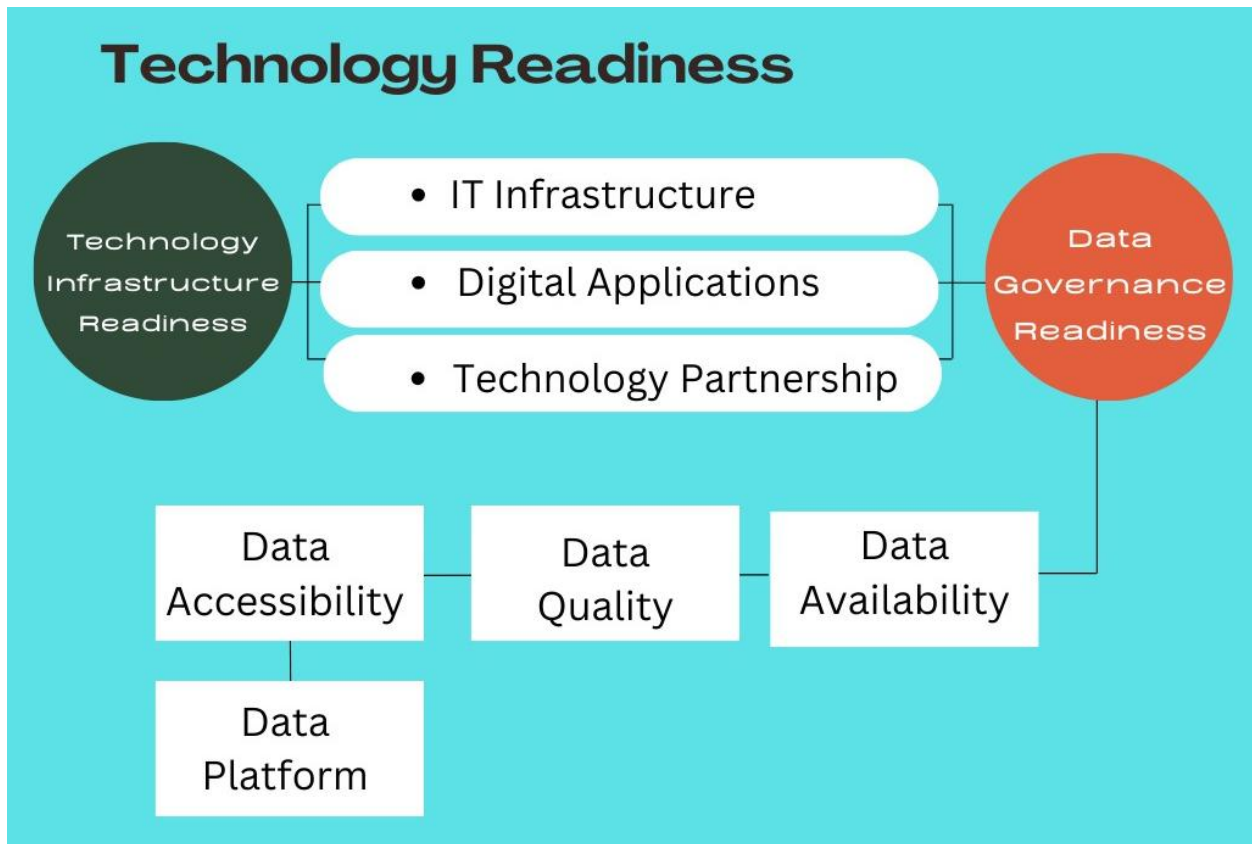


Figure No. 6: Technology readiness factors

In Fig. 6, technology readiness has two major categories of AI readiness factors: one is technology infrastructure readiness, and the second is data governance readiness. Technology infrastructure encompasses both IT infrastructure and digital applications, while partnerships with various organizations collaborate on the implementation of AI. Data governance and IT

infrastructure readiness underscore the significance of all these technology readiness factors. The second subfactor is data governance for AI, which emphasizes the importance of data quality, availability, accessibility, and data platforms. Organizational infrastructure readiness, including hardware and software, is of extreme importance. It is crucial to completely focus on IT equipment. Additionally, technology partnerships play a crucial role in supporting organizational change and readiness.

4.7 Organizational Environment

Organizational environment collaborative work describes the degree to which domain experts, AI specialists, and IT departments actively communicate and work together in cross-functional teams (Davenport 2018). In the context of AI, collaborative work is crucial to overcome siloed work and to identify new use cases that are beneficial to the organization (Fountaine et al. 2019).

One of the head said;

.....Yes, resources are different types: human resources, financial resources, IT resources, and infrastructure resources and depends on the AI project, but organizational readiness is different.....(ER-5,9).

Another prof and head said;

.....According to our observations, the organizational environment is the primary factor, while the dynamics of the organizational structure, the willingness to adapt, and the availability of resources are the subfactors.....(ER-4, 8).

Another prof and head said;

*.....Non-technical individuals can utilize skill sets and technology tools due to the availability of resources. Basically, we can align the factors with organizational changes. So the categories of **resources** are: resource availability, finance budget for AI initiatives, human resource availability for AI initiatives (IT and non-IT both), technical resource for solution/model development (AI specialist resources)..... (ER-4,10, 11).*

One of the Head said;

*...almost senior management recommended the AI readiness environment factor is change to the organizational environmental major factor, in which subfactors relay **Environment/Acceptability to Change** (Organizational Support for AI Initiatives (General Acceptability within Organization), Change Adaptability and Agility, Scalability, and Future Proofing the Business (Business Sustainability)..... (ER-2, 7,8, 14).*

In our experience, your most important readiness factor for AI is to enlist.

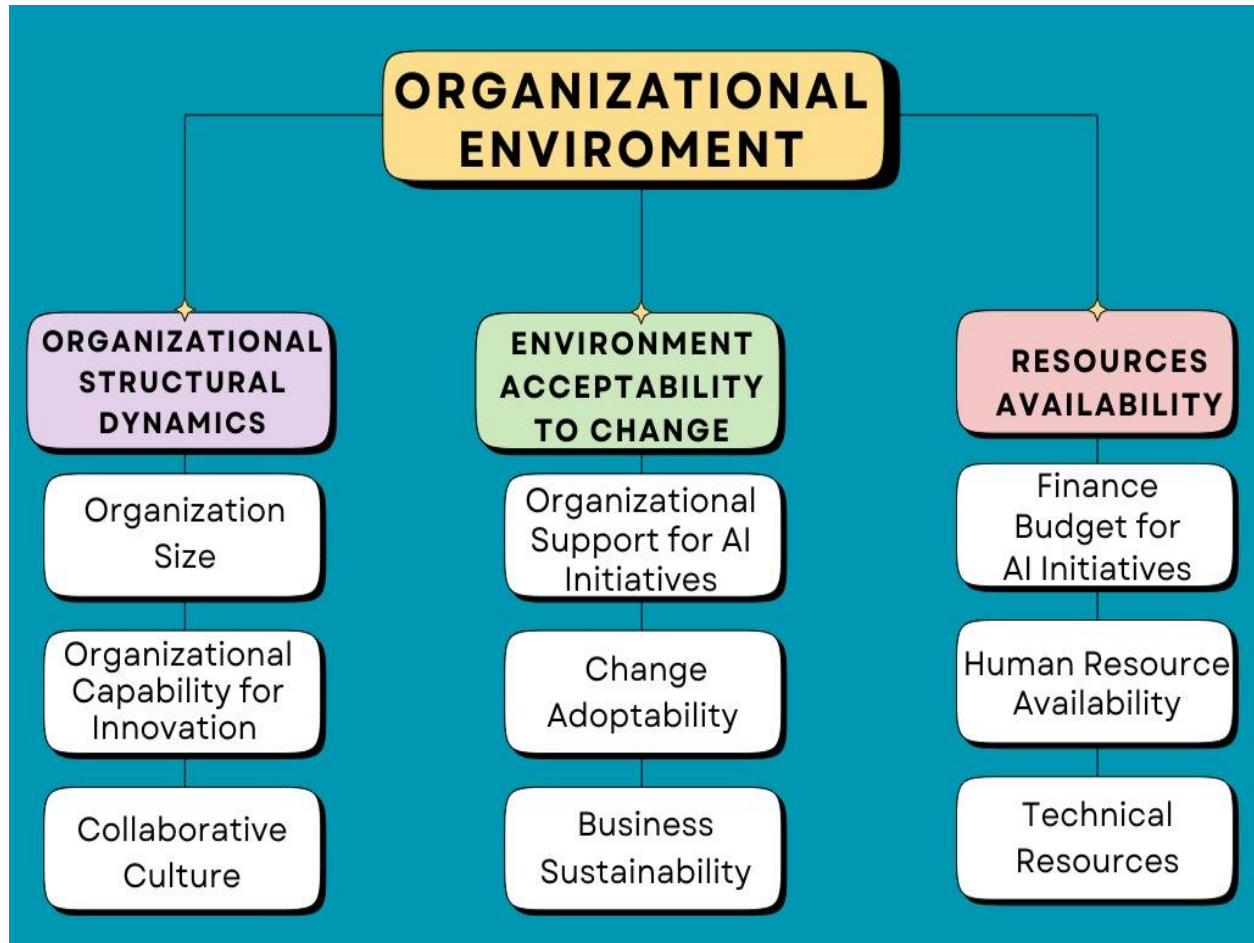


Figure No. 7: Organizational environment factors

In Fig. 7, organizational environments consist of three main subfactors that contribute to the readiness of public sector organizations for artificial intelligence. The organizational structure factor plays a crucial role, directly influencing the organization's capability and acceptance. Additionally, the availability of technical and human resources is crucial for organizational change in the context of artificial intelligence, particularly for public sector organizations.

4.8 AI readiness framework factors for public sector organizations.

Table 3: AI readiness framework factors ranking

ID	Factors	Sr. No	Sub-Factors	None	Low	Moderate	High	Excellent
I	People Readiness							
i	Awareness & Skillset Spread	(a)	Employee AI Literary					

	(b)	Multi-Disciplinary Team
ii	Training Plan	(a) Technical Employees Training/Upskilling plan
	(b)	Employees AI-Usage Training
2	Strategies & Policies	
i	Leadership & Vision	(a) Organization Vision and Strategy
	(b)	Top Management Support
ii	Strategy	(a) Organizational AI- Strategy
	(b)	Transition and Change Management Strategy
	(c)	Implementation Risk Mitigation Strategy
	(d)	Communication Strategy
iii	Policies & Guidelines	(a) Organizational AI Policy
	(b)	Responsible AI-Usage Guidelines
	(c)	Government Regulatory Compliance
3	Processes readiness	
i	Business Process Alignment	(a) Business Process Designing
	(b)	AI-Business Process Integration
ii	External Parties Interaction Readiness	(a) Partners, Suppliers, Financiers Readiness
	(b)	Customer Readiness
4	Technology Readiness	
i	Data governance Readiness	(a) Data Availability
	(b)	Data Quality
	(c)	Data Accessibility

ii	Technology Infrastructure Readiness	(d) Data Platform (a) IT Infrastructure
		(b) Digital Applications & Systems
		(c) Technology Partnerships
5	Organizational Environment	
i	Organizational Structural Dynamics	(a) Organization Size (b) Organizational Capability (c) Collaborative Culture
ii	Environment/ Acceptability to Change	(a) Organizational Support for AI initiatives (b) AI-Acceptability (c) Change Adaptability (d) Scalability (E) Business Sustainability
iii	Resource Availability	(a) Finance Budget for AI Initiatives (b) Human Resource Availability (c) Technical Resource

We score AI readiness factors based on expert opinion results, as shown in Table 3. There are some factors, according to public sector organizations, that have no rating working; that is the reason expert opinion said mostly organizations have not developed AI scalability, not developed the guidelines of AI utilization, not developed the risk mitigation strategies, and not

developed the change management strategies about organizations. The low rating of AI readiness is attributed to factors such as a multidisciplinary team lacking the necessary skills for implementation, employees lacking proper usage training, inadequate communication strategies, inadequate data accessibility, and a challenging data platform for AI implementation. On the other hand, adaptability to change plays a crucial role, and every public sector organization must prioritize the importance of technical resources in achieving AI readiness. In addition to considering all AI readiness factors, this framework strongly and moderately recommends AI implementation for public sector organizations.

5. Discussion

The present study of expert opinion methodology for AI readiness factors identified the criteria that reflect organizational readiness for developing AI readiness. Prepared organizations set specific goals for AI adoption, demonstrating their intention to reap benefits from a wide variety of AI applications. We identify the five key factors of AI readiness for public sector organizations, each with subfactors that delve into organizational readiness for AI implementation. The framework of AI readiness factors for public sector organizations in the context of Pakistan is being discussed in table 4.

Table 4: AI readiness Framework for Public Sector Organizations

ID	Factors	Sr. No	Sub-Factors	Organizations AI Readiness Factors
1 People Readiness				
i	Awareness & Skillset Spread	(a)	Employee AI Literary	AI awareness to the employees easily understanding toward AI and organization to improve the literacy rate.
		(b)	Multi-Disciplinary Team	Organizational readiness requires the best multi-disciplinary team or experts for implementation of Artificial Intelligence.
ii	Training Plan	(a)	Technical Employees Training/Upskilling plan	Organizations' readiness of the need for technical employee training can be easily understood when integrating AI.
		(b)	Employees AI-Usage Training	AI guidelines for employee usage training are critical to organizational readiness assessment, and technical staff can easily operate.
2 Strategy and Policies				
i	Leadership &	(a)	Organization	The vision and strategic plan of an organization must

	Vision	Vision and Strategy	include realistic goals to ready for AI implementation.
		(b) Top Management Support	Organization needs to successful implementation of AI, a well-defined plan and strong support from top management is crucial.
ii	Strategy	(a) Organizational AI-Strategy	Effective organizational readiness is defined as a clear AI strategy that identifies areas within AI that can be implemented and add significant value.
		(b) Transition and Change Management Strategy	Organizational readiness for the transition change management strategy is crucial to ensure effective management of the underlying change.
		(c) Implementation Risk Mitigation Strategy	Organization readiness: Implement risk mitigation strategies to identify the risk, monitor, and evaluate the risks and consequences inherent to completing a specific AI implementation in any organizational process.
		(d) Communication Strategy	Organizations have a comprehensive communication strategy available for the implementation of AI and information-specific matters.
iii	Policies & Guidelines	(a) Organizational AI Policy	From the government's Artificial Intelligence initiative, organizations readiness requires AI-Policy.
		(b) Responsible AI-Usage Guidelines	For any new AI initiatives, the government is responsible for providing AI usage guidelines.
		(c) Government Regulatory Compliance	Organizational requirement to government policy has been identified of the factors influencing for AI.
3			Processes Readiness
i	Business Process Alignment	(a) Business Process Designing	Artificial intelligence (AI) implementation in organizations requires process design and the level to which processes are ready for AI implementation.
		(b) AI-Business Process Integration	Organization business process flexible and potentials demand to implement of Artificial Intelligence.
ii	External Parties Interaction Readiness	(a) Partners, Suppliers, Financiers Readiness	For AI implementation, the organization must collaborate with partners, suppliers, and financiers in order to be ready.
		(b) Customer Readiness	Customer readiness refers to the necessary knowledge, skills, and motivation to process service production and delivery using artificial intelligence.
4			Technology Readiness
i	Data	(a) Data Availability	The organization require to (reliable & secure) data

	governance Readiness		availabilities for implementation artificial intelligence.
		(b) Data Quality	Organization requires to quality of data that easily accessible, accurate, consistent, and process to continuous improvement of AI.
		(c) Data Accessibility	Organization has data accessibility sources, and usage guidelines provide for users to understand and apply the data for AI implementation.
		(d) Data Platform	Organization has a readily available platform and data infrastructure that can be deployed for artificial intelligence
ii	Technology Infrastructure Readiness	(a) IT Infrastructure	organizational availability of IT Infrastructures (Hardware, Cloud, Security, etc.) ready to AI deployment.
		(b) Digital Applications & Systems	An organization needs a specific digital application or system to be ready for AI implementation.
		(c) Technology Partnerships	organization readiness requires to engage in technology partnerships with other organizations to implement AI.
5			Organizational Environment
i	Organizational Structural Dynamics	(a) Organization Size	Organizational Structure Size has a stronger ability to adapt artificial intelligence technology.
		(b) Organizational Capability for Innovation	Organizations have the capacity to drive innovation for AI adoption.
		(c) Collaborative Culture	Organizational preparation has overall facilitated in the complete environment and knowledge exchange across the department level for AI Initiative.
ii	Environment/ Acceptability to Change	(a) Organizational Support for AI initiatives	All support for AI initiatives requires organizational readiness from the top to the bottom.
		(b) AI-Acceptability	Organizational readiness necessitated both internal and external AI acceptance.
		(c) Change Adaptability	Organizations have the ability to quickly implement AI and change successfully.
		(d) Scalability	Organizations have the ability to increase the rate of AI implementation while still performing well.
		(E) Business Sustainability	Organizational readiness AI business Sustainability refers to a strategy to continuously improve the environmental and social impacts of business operations.
iii	Resource	(a) Finance Budget for	For an organization is required a strategic roadmap of the

Availability	AI Initiatives	financial budget for adopting AI and overcoming challenges in the internal system.
(b)	Human Resource Availability	Adoption of AI requires the availability of internal and external organizational resources.
(c)	Technical Resource	Organizational readiness requires the availability of two key resources: technical and human resources for AI.

As a result table 4, AI adoption may have a variety of features, depending on the adoption goal. The most significant factor in determining AI readiness is an organization's IT infrastructure. Furthermore, major five factor peoples readiness, strategies and policies, process readiness, technology readiness and organizational environmental readiness in which most critical factors are top management support, resource availability, collaborative culture, organizational size, organizational capabilities, data quality, compatibility, financial budget, AI-business potentials, AI-process fit, organizational AI strategy, change management strategy, risk mitigation strategy, data governance, competitive pressure, relative advantage, strategic vision, data-driven decision-making, upskilling, data accessibility, government regulatory issues, data availability, sustainability, business scalabilities are most highly ranked factors previous research years. The authors rank low-potential factors such as AI awareness, innovativeness, and AI policy as important, despite their relatively low ranking. repeat the discussion about organizational readiness. Review the current factors for artificial intelligence adoption to assess organizational AI readiness. Organizations interested in integrating artificial intelligence across multiple departments should prioritize enhancing their IT infrastructure as a crucial component of AI readiness (Pathak, & Bansal, 2024).

Furthermore, by considering the readiness of organizations for change and the adoption of AI technology, we propose that AI readiness is a beneficial concept that takes into effect the individual aspects of the technology and the setting in terms of readiness (Lokuge et al., 2018). AI presents distinct difficulties and opportunities that set it apart from other technologies, like digital transformation and IoT. This highlights the importance of giving careful thought to AI readiness, taking into account the current body of literature on readiness and technological adoption. The goal of this study is to provide a comprehensive understanding of AI preparedness, enabling researchers to comprehend the foundation of our findings and expand upon current

information. This includes factors related to category data, which is a critical input for AI readiness and may lead to biased AI outcomes. Therefore, we need a new understanding of AI readiness and adoption, customized to each unique situation and purpose (Hradecky, 2022).

This study seeks to identify and extract the essential requirements for the implementation of artificial intelligence based on existing research. More precisely, the focus is on the specific requirements that an organization needs to meet in order to successfully implement AI and conduct added-value assessments. These strategic aspects are all considered essential for success in the realm of artificial intelligence. A high-ranked organization's readiness factor necessitates more management attention and investment of all resources to ensure compliance with the new requirements of AI implementation. Moreover, we assess the AI readiness of various organizations based on their impact, whether positive or negative, on the firm's overall preparedness for AI implementation. We conduct an analysis of the current components that contribute to readiness, while also providing fresh perspectives on these issues. This study demonstrates that implementing a hybrid cloud structure has a positive impact on the organizational readiness of artificial intelligence in the context of IT infrastructure.

5.1 Contribution of the research

In this study, AI readiness greatly adds to academia's contribution to several fields, such as research and development, where AI research plays a crucial role in various applications, machine learning, and natural language processes. AI ready across various institutions and AI research centers to provide educational programs and lab-based experience. Collaborative networking is used by the government to design policies for professionals, students, and markets. In academia, research is required to establish capacity for new AI efforts, as well as worldwide contributions to training and knowledge exchange programs.

In practical contribution as most attention to artificial intelligence in current era of technology. Organizational readiness to help the minimizes the failure rate of AI implementation in different sectors. This systematic literature review focuses on the organizational readiness aspect of AI, aiming to enable organizations to move forward in the field of AI beyond technical AI and gain the business value of AI. AI readiness factors on the typical readiness factors such as budget, IT infrastructure, employee training, top management support, Stakeholder engagement,

financial budget, IT infrastructure, Multidisciplinary team, Data availability, Data quality, Competitive pressure, Customer readiness is identified as AI organizational readiness factors. Nowadays, Artificial intelligence is one of the most important initiatives to be undertaken in many organizations. However, organizations often struggle to realize AI's business value. This research aims to help organizations remove the failure factors to implementation of AI in the different sector cross the industrial practice and AI technology.

5.2 Research Implications

Artificial intelligence is coming, and many organizations will need to alter in order to take advantage of it, but the high failure rate of AI is not promising. Although most organizations have deployed AI technology, this does not guarantee that they are ready to operate with it. Organizations fail because they are unable to handle changing failure rates during the AI technology shift (Kruse et al., 2019). This systematic literature review study raises awareness and comprehension by illustrating numerous failures discovered in previous literature and guiding managers on what the most crucial readiness aspects are throughout AI transformation (Gabutti et al., 2023; Johnk et al., 2021). Furthermore, the current study investigated the many benefits of organizational readiness, which inspires deployments from various firms to apply AI in their enterprises in order to obtain a competitive advantage

5.3 Limitations and Future Directions

AI technology continues to advance, it will reshape our capabilities, stretching the limits of human creativity and problem-solving. Through proactive adoption, businesses can pave the path towards a future where AI in enterprise software enhances human abilities and fosters progress for everyone. This would increase the sample size and broaden the scope of the review to encompass several sectors (Pumplun et al., 2019; Alsheiabni, 2019). Furthermore, the present study could be enhanced by integrating additional pertinent terms, broadening the temporal scope to embrace a more extensive range, and refining the criteria for inclusion and exclusion.

5.4 Conclusion

This study presents an expert opinion methodology for identifying AI readiness factors for public sector organizations. The identified five major and 35 AI factors are crucial for the successful implementation of AI within the given time frame. This study draws an inductive

conclusion to establish the AI readiness framework and accomplish its primary goals. It identifies five critical and significant factors: people's readiness, strategy and policies, process readiness, technology readiness, and organizational environment. These factors also include crucial subfactors such as organizational IT infrastructure, top management support, available resources, collaborative culture, organizational size, organizational capabilities, data quality, compatibilities, and the remaining fifteen factors. Before implementing AI in any organization, all of these factors should be considered before the implementation of AI in any organization. The findings also reveal a high failure rate in case-based organizations, highlighting the need for AI readiness factors to support the implementation of AI in any organization and reduce the low failure rate. The findings of this research indicate that AI readiness factors are of high importance for the implementation of AI in organizations. Top management must consider the importance of all AI readiness factors for AI implementation in public or private organizations to give AI competitive advantages, improve efficacy, innovation, and growth.

6. References

- Aatif, A. (2022). *The Impact of AI Adoption Challenges on Organisational Readiness: An Interview Based Study in the Norwegian Public Sector* (Master's thesis).
- Abdou, D. S., & Kamal, N. N. (2018). Future of Artificial Intelligence: Japan's Path to Growth. *American Journal of Modern Physics and Application*, 5(3), 48-52.
- Aboelmaged, M. G. (2014). Predicting e-readiness at firm-level: An analysis of technological, organizational and environmental (TOE) effects on e-maintenance readiness in manufacturing firms. *International Journal of Information Management*, 34(5), 639-651.
- Adam, M., & Hanafi, A. (2022, March). Readiness for Organizational Change. In *7th Sriwijaya Economics, Accounting, and Business Conference (SEABC 2021)* (pp. 360-368). Atlantis Press.
- Agrawal, P., Arya, R., Bindal, A., Bhatia, S., Gagneja, A., Godlewski, J., ... & Wu, M. C. (2019, June). Data platform for machine learning. In *Proceedings of the 2019 international conference on management of data* (pp. 1803-1816).
- Alami, H., Lehoux, P., Denis, J. L., Motulsky, A., Petitgand, C., Savoldelli, M., ... & Fortin, J. P. (2021). Organizational readiness for artificial intelligence in health care: insights for decision-making and practice. *Journal of Health Organization and Management*, 35(1), 106-114.

- Ali, W., Khan, A. Z., & Qureshi, I. M. (2024). THE INFLUENCE OF EMOTIONAL INTELLIGENCE AND TEAM BUILDING ON PROJECT SUCCESS. *International Research Journal of Social Sciences and Humanities*,3(1), 616-641.
- Alshawi, M. (2007). *Rethinking IT in construction and engineering: Organisational readiness* (p. 289). Taylor & Francis.
- Alsheiabni, S., Cheung, Y., & Messom, C. (2019). Factors inhibiting the adoption of artificial intelligence at organizational-level: A preliminary investigation. In *Americas Conference on Information Systems 2019* (p. 2). Association for Information Systems.
- Alsheibani, S. A., Cheung, Y., Messom, C. H., & Alhosni, M. (2020, August). Winning AI Strategy: Six-Steps to Create Value from Artificial Intelligence. In *AMCIS* (Vol. 11).
- Alsheibani, S., Cheung, Y., & Messom, C. (2018). Artificial intelligence adoption: AI-readiness at firm-level. In *Pacific Asia Conference on Information Systems 2018* (p. 37). Association for Information Systems.
- Ashri, R., & Ashri, R. (2020). Defining an AI strategy. *The AI-powered workplace: How artificial intelligence, data, and messaging platforms are defining the future of work*, 143-159.
- Aziz, S., & Dowling, M. (2019). Machine learning and AI for risk management. *Disrupting finance: FinTech and strategy in the 21st century*, 33-50.
- Baeza-Yates, R., & Fayyad, U. M. (2024). Responsible AI: An Urgent Mandate. *IEEE Intelligent Systems*,39(1), 12-17.
- Baier, R. R., Jutkowitz, E., Mitchell, S. L., McCreedy, E., & Mor, V. (2019). Readiness assessment for pragmatic trials (RAPT): a model to assess the readiness of an intervention for testing in a pragmatic trial. *BMC Medical Research Methodology*,19, 1-8.
- Baker, J. (2012). The technology–organization–environment framework. *Information Systems Theory: Explaining and Predicting Our Digital Society, Vol. 1*, 231-245.
- Bakkabulindi, F. E. K. (2014). A call for return to Rogers' innovation diffusion theory. *Makerere Journal of Higher Education*,6(1), 55-85.
- Barmer, H., Dzombak, R., Gaston, M., Palat, V., Redner, F., Smith, T., & Wohlbier, J. (2021). Scalable AI.

- Baslom MMM, Tong S (2019) Strategic management of organizational knowledge and employee's awareness about artificial intelligence with mediating effect of learning climate. *Int J Comput Intell Syst* 12:1585–1591.
- Bazrkar, A., Kazemi, B., & Yadegari, R. (2023). Improving the organizational social responsibility of B2B companies through technological readiness with regard to the mediating role of customer relationship management based on artificial intelligence. *Journal on Innovation and Sustainability RISUS*, 14(4), 207-224.
- Borges, A. F., Laurindo, F. J., Spínola, M. M., Gonçalves, R. F., & Mattos, C. A. (2021). The strategic use of artificial intelligence in the digital era: Systematic literature review and future research directions. *International Journal of Information Management*, 57, 102225.
- Burton-Jones, A., & Straub Jr, D. W. (2006). Reconceptualizing system usage: An approach and empirical test. *Information systems research*, 17(3), 228-246.
- Cassell, C., & Symon, G. (2004). Raising the profile of qualitative methods in organizational research. In *The real life guide to accounting research* (pp. 491-508). Elsevier.
- Cheon, E., Zaga, C., Lee, H. R., Lupetti, M. L., Dombrowski, L., & Jung, M. F. (2021, October). Human-machine partnerships in the future of work: exploring the role of emerging technologies in future workplaces. In *Companion Publication of the 2021 Conference on Computer Supported Cooperative Work and Social Computing* (pp. 323-326).
- Connor, S., Li, T., Roberts, R., Thakkar, S., Liu, Z., & Tong, W. (2022). Adaptability of AI for safety evaluation in regulatory science: A case study of drug-induced liver injury. *Frontiers in Artificial Intelligence*, 5, 1034631.
- Crews, C. (2019). What Machine Learning Can Learn from Foresight: A Human-Centered Approach: For machine learning-based forecast efforts to succeed, they must embrace lessons from corporate foresight to address human and organizational challenges. *Research-Technology Management*, 62(1), 30-33.
- Davenport, T., Guha, A., Grewal, D., & Bressgott, T. (2019). How artificial intelligence will change the future of marketing. *Journal of the Academic Marketing Science*, 48, 24–42.
- Di Vaio, A., Palladino, R., Hassan, R., & Escobar, O. (2020). Artificial intelligence and business models in the sustainable development goals perspective: A systematic literature review. *Journal of Business Research*, 121, 283-314.

- Draper, A., & Swift, J. A. (2011). Qualitative research in nutrition and dietetics: Data collection issues. *Journal of human nutrition and dietetics*, 24(1), 3-12.
- Duan, Y., Edwards, J.S., Dwivedi, Y.K., 2019. Artificial intelligence for decision making in the era of big data – evolution, challenges and research agenda. *Int. J. Inf. Manage.* 48, 63–71. <http://dx.doi.org/10.1016/j.ijinfomgt.2019.01.021>.
- Dwivedi, Y. K., Hughes, L., Ismagilova, E., Aarts, G., Coombs, C., Crick, T., & Williams, M. D. (2021). Artificial Intelligence (AI): Multidisciplinary perspectives on emerging challenges, opportunities, and agenda for research, practice and policy. *International Journal of Information Management*, 57, 101994.
- Dworkin, S. L. (2012). Sample size policy for qualitative studies using in-depth interviews. *Archives of sexual behavior*, 41, 1319-1320.
- Ekellem, E. A. F. (2023). Operational Renaissance: Harnessing AI for Enhanced Business Efficacy. *Authorea Preprints*.
- Fatima, S., Desouza, K. C., Buck, C., & Fielt, E. (2022). Public AI canvas for AI-enabled public value: A design science approach. *Government Information Quarterly*, 39(4), 101722.
- Ferretti, T. (2022). An institutionalist approach to AI ethics: Justifying the priority of government regulation over self-regulation. *Moral Philosophy and Politics*, 9(2), 239-265.
- Fountaine, T., McCarthy, B., & Saleh, T. (2019). Building the AI-powered organization. *Harvard Business Review*, 97(4), 62-73.
- Frantz, R. (2003). Herbert Simon. Artificial intelligence as a framework for understanding intuition. *Journal of Economic Psychology*, 24(2), 265-277.
- Gartner. (2019). Artificial intelligence and machine learning. Accessed. < <https://www.gartner.com/en/conferences/na/applications-us/featured-topics/ai-machine-learning>.
- Guest, G., Namey, E., & McKenna, K. (2017). How many focus groups are enough? Building an evidence base for nonprobability sample sizes. *Field methods*, 29(1), 3-22.
- Hafeez, A., Asghar, F., Ali, W., Rashid, M., & Ali, W. (2023). Laws Governed Role Of Artificial Intelligence And Machine Learning In Supply Chain Management. *Russian Law Journal*, 11(4), 955-962.
- Hameed, S., & Nigam, A. (2023). Exploring India's Generation Z perspective on AI enabled internet banking services. *foresight*, 25(2), 287-302.

- Hariguna, T., & Ruangkanjanases, A. (2024). Assessing the impact of artificial intelligence on customer performance: A quantitative study using partial least squares methodology. *Data Science and Management*, 7(3), 155-163.
- Harvey, H. B., & Gowda, V. (2021). Regulatory issues and challenges to artificial intelligence adoption. *Radiologic Clinics*, 59(6), 1075-1083.
- Hofmann, T., Lowry, G. V., Ghoshal, S., Tufenkji, N., Brambilla, D., Dutcher, J. R., ... & Wilkinson, K. J. (2020). Technology readiness and overcoming barriers to sustainably implement nanotechnology-enabled plant agriculture. *Nature Food*, 1(7), 416-425.
- Hradecky, D., Kennell, J., Cai, W., & Davidson, R. (2022). Organizational readiness to adopt artificial intelligence in the exhibition sector in Western Europe. *International journal of information management*, 65, 102497.
- Hummer, W., Muthusamy, V., Rausch, T., Dube, P., El Maghraoui, K., Murthi, A., & Oum, P. (2019, June). Modelops: Cloud-based lifecycle management for reliable and trusted ai. In *2019 IEEE International Conference on Cloud Engineering (IC2E)* (pp. 113-120). IEEE.
- Iansiti, M., & Lakhani, K. R. (2020). *Competing in the age of AI: Strategy and leadership when algorithms and networks run the world*. Harvard Business Press.
- Issa, H., Jabbouri, R., & Palmer, M. (2022). An artificial intelligence (AI)-readiness and adoption framework for AgriTech firms. *Technological Forecasting and Social Change*, 182, 121874.
- Jöhnk, J., Weißert, M., & Wyrтки, K. (2021). Ready or not, AI comes—an interview study of organizational AI readiness factors. *Business & Information Systems Engineering*, 63(1), 5-20.
- Khan, S. K., Hassan, N. U., & Ali, W. (2023). THE DETERMINANTS OF CONSUMERS' ONLINE SHOPPING BEHAVIOUR: AN EMPIRICAL ASSESSMENT. *Gomal University Journal of Research*, 39(1), 47-54.
- Kolasani, S. (2023). Innovations in digital, enterprise, cloud, data transformation, and organizational change management using agile, lean, and data-driven methodologies. *International Journal of Machine Learning and Artificial Intelligence*, 4(4), 1-18.
- Kothari, C. R. (2004). *Research methodology: Methods and techniques*. New Age International.

- Krägeloh, C. U., Alyami, M. M., & Medvedev, O. N. (2023). AI in questionnaire creation: Guidelines illustrated in AI acceptability instrument development. In *International Handbook of Behavioral Health Assessment* (pp. 1-23). Cham: Springer International Publishing.
- Kruse, L., Wunderlich, N., & Beck, R. (2019). Artificial intelligence for the financial services industry: What challenges organizations to succeed.
- Leite, L., Meirelles, P. R. M., Kon, F., & Rocha, C. (2023). Practices for Managing Machine Learning Products: a Multivocal Literature Review. *Authorea Preprints*.
- Lokuge, S., Sedera, D., Grover, V., & Dongming, X. (2019). Organizational readiness for digital innovation: Development and empirical calibration of a construct. *Information & management*, 56(3), 445-461.
- Mahroof, K. (2019). *Exploring the Impact of Business Intelligence (BI) Use on Organisational Power Dynamics: A National Health Service (NHS) Case Study* (Doctoral dissertation, University of Bradford).
- Mathieson, K., Peacock, E., & Chin, W. W. (2001). Extending the technology acceptance model: the influence of perceived user resources. *ACM SIGMIS Database: the DATABASE for Advances in Information Systems*, 32(3), 86-112.
- Mikalef, P., Lemmer, K., Schaefer, C., Ylinen, M., Fjørtoft, S. O., Torvatn, H. Y., ... & Niehaves, B. (2023). Examining how AI capabilities can foster organizational performance in public organizations. *Government Information Quarterly*, 40(2), 101797.
- Moro-Visconti, R., Cruz Rambaud, S., & López Pascual, J. (2023). Artificial intelligence-driven scalability and its impact on the sustainability and valuation of traditional firms. *Humanities and Social Sciences Communications*, 10(1), 1-14.
- Nadarzynski, T., Miles, O., Cowie, A., & Ridge, D. (2019). Acceptability of artificial intelligence (AI)-led chatbot services in healthcare: A mixed-methods study. *Digital health*, 5, 2055207619871808.
- Nair, K., & Gupta, R. (2021). Application of AI technology in modern digital marketing environment. *World Journal of Entrepreneurship, Management and Sustainable Development*, 17(3), 318-328.
- Najdawi, A. (2020, July). Assessing AI readiness across organizations: The case of UAE. In *2020 11th International Conference on Computing, Communication and Networking Technologies (ICCCNT)* (pp. 1-5). IEEE.

- Neumann, O., Guirguis, K., & Steiner, R. (2024). Exploring artificial intelligence adoption in public organizations: a comparative case study. *Public Management Review*, 26(1), 114-141.
- Nili, A., Tate, M., & Johnstone, D. (2023). User persistence in solving self-service technology problems.
- Oliveira, T., & Martins, M. F. O. (2011). Understanding the determinant factors of Internet business solutions adoption: the case of Portuguese firms. *Applied Economics Letters*, 18(18), 1769-1775.
- Pai, V., & Chandra, S. (2022). Exploring factors influencing organizational adoption of artificial intelligence (AI) in corporate social responsibility (CSR) initiatives. *Pacific Asia Journal of the Association for Information Systems*, 14(5), 4.
- Pathak, A., & Bansal, V. (2024). Factors Influencing the Readiness for Artificial Intelligence Adoption in Indian Insurance Organizations. In *International Working Conference on Transfer and Diffusion of IT* (pp. 43-55). Springer, Cham.
- Pathak, A., & Bansal, V. (2024). Factors Influencing the Readiness for Artificial Intelligence Adoption in Indian Insurance Organizations. In *International Working Conference on Transfer and Diffusion of IT* (pp. 43-55). Springer, Cham.
- Pumplun, L., Tauchert, C., & Heidt, M. (2019). A new organizational chassis for artificial intelligence-exploring organizational readiness factors.
- Pyle, D., & San José, C. (2015). An executive's guide to machine learning. *McKinsey Quarterly*, 3, 44-53.
- Quan, X. I., & Sanderson, J. (2018). Understanding the artificial intelligence business ecosystem. *IEEE Engineering Management Review*, 46(4), 22-25.
- Rafferty, A. E., Jimmieson, N. L., & Armenakis, A. A. (2013). Change readiness: A multilevel review. *Journal of management*, 39(1), 110-135.
- Rahman, M. S., Bag, S., Gupta, S., & Sivarajah, U. (2023). Technology readiness of B2B firms and AI-based customer relationship management capability for enhancing social sustainability performance. *Journal of Business Research*, 156, 113525.
- Rai, N., & Thapa, B. (2015). A study on purposive sampling method in research. *Kathmandu: Kathmandu School of Law*, 5(1), 8-15.
- Ramchurn, S. D., Stein, S., & Jennings, N. R. (2021). Trustworthy human-AI partnerships. *Iscience*, 24(8).

- Ransbotham, S., Khodabandeh, S., Kiron, D., Candelon, F., Chu, M., & LaFountain, B. (2020). Expanding AI's impact with organizational learning.
- Rosendale, J. A., & Dieter, D. G. (2021). ORGANIZATIONAL STRATEGY AND THE FUTURE OF AI FOR COMPETITIVE ADVANTAGE. In *Competition Forum* (Vol. 19, No. 1/2, pp. 9-17). American Society for Competitiveness.
- Sair, S. A., Anjum, M. N., Ali, W., & Adnan, M. (2023). Empowering Small and Medium Enterprises Performance Through Dynamic Marketing Strategies and Innovations. *Review of Education, Administration & Law*, 6(2), 321-330.
- Sanabria-Z, J., Artemova, I., Argüelles, A., & Olivo, P. (2023, October). Unlocking Long-Term Engagement with Citizen Science: Communication Strategies Driven by Complex Thinking Under an AI-Assisted Approach. In *International conference on technological ecosystems for enhancing multiculturalism* (pp. 998-1008). Singapore: Springer Nature Singapore.
- Sarker, I. H. (2022). AI-based modeling: techniques, applications and research issues towards automation, intelligent and smart systems. *SN Computer Science*, 3(2), 158.
- Saunders, M., Lewis, P., & Thornhill, A. (2009). *Research methods for business students*. Pearson education.
- Schiff, D. (2022). Education for AI, not AI for Education: the role of education and ethics in national AI policy strategies. *International Journal of Artificial Intelligence in Education*, 32(3), 527-563.
- Schwabe, D., Becker, K., Seyferth, M., Klaub, A., & Schaeffter, T. (2024). The METRIC-framework for assessing data quality for trustworthy AI in medicine: a systematic review. *NPJ Digital Medicine*, 7(1), 203.
- Sekaran, U. (2016). *Research methods for business: A skill building approach*.
- Shah, T. R., Kautish, P., & Walia, S. (2024). Linking technology readiness and customer engagement: an AI-enabled voice assistants investigation. *foresight*, 26(1), 136-154.
- Shahrasbi N, Pare´ G (2014) Rethinking the concept of organizational readiness: what can is researchers learn from the change management field? In: AMCIS 2014 Proceedings, Savannah.
- Shakina, I., Shirokaya, A., & Tochilova, L. (2021, November). Customer Readiness Level to Adopt Artificial Intelligence in Banking: Case of Russia. In *ECIAIR 2021 3rd European Conference on the Impact of Artificial Intelligence and Robotics* (p. 208). Academic Conferences and publishing limited.

- Shrestha, Y. R., Ben-Menahem, S. M., & Von Krogh, G. (2019). Organizational decision-making structures in the age of artificial intelligence. *California management review*, 61(4), 66-83.
- Sirait, E., Zuiderwijk, A., & Janssen, M. (2024, August). The Readiness of the Public Sector to Implement AI: A Government-Specific Framework. In *International Conference on Electronic Government* (pp. 302-316). Cham: Springer Nature Switzerland.
- Spector, J.M., Ma, S., 2019. Inquiry and critical thinking skills for the next generation: From artificial intelligence back to human intelligence. *Smart Learn. Environ.* 6 (1), 8. <http://dx.doi.org/10.1186/s40561-019-0088-z>, s40561-019-0088-z.
- Srivastava, B., & Rossi, F. (2018, December). Towards composable bias rating of AI services. In *Proceedings of the 2018 AAAI/ACM Conference on AI, Ethics, and Society* (pp. 284-289).
- Toniolo, K., Masiero, E., Massaro, M., & Bagnoli, C. (2020). Sustainable business models and artificial intelligence: Opportunities and challenges. *Knowledge, people, and digital transformation: Approaches for a sustainable future*, 103-117.
- Uren, V., & Edwards, J. S. (2023). Technology readiness and the organizational journey towards AI adoption: An empirical study. *International Journal of Information Management*, 68, 102588.
- Valle-Cruz, D., & García-Contreras, R. (2023). Towards AI-driven transformation and smart data management: emerging technological change in the public sector value chain. *Public Policy and Administration*, 09520767231188401.
- Vladimirovna, V. V. (2024). AI-Driven Transformation of HR Managers Role in Training of Employees.
- Walker, J. L. (2012). Research column. The use of saturation in qualitative research. *Canadian journal of cardiovascular nursing*, 22(2).
- Wang, L., Zhang, X., Li, Q., Zhang, M., Su, H., Zhu, J., & Zhong, Y. (2023). Incorporating neuro-inspired adaptability for continual learning in artificial intelligence. *Nature Machine Intelligence*, 5(12), 1356-1368.
- Wärnestål, P. (2021, December). Multi-disciplinary Learning and Innovation for Professional Design of AI-Powered Services. In *International Conference on Design, Learning, and Innovation* (pp. 21-36). Cham: Springer International Publishing.

- Watson, D. (2019). The rhetoric and reality of anthropomorphism in artificial intelligence. *Minds and Machines*, 29(3), 417-440.
- Weber, M., Engert, M., Schaffer, N., Weking, J., & Krcmar, H. (2023). Organizational capabilities for ai implementation—coping with inscrutability and data dependency in ai. *Information Systems Frontiers*, 25(4), 1549-1569.
- Weiner, B. J. (2020). A theory of organizational readiness for change. In *Handbook on implementation science* (pp. 215-232). Edward Elgar Publishing.
- Williams, M. A. (2019, June). The artificial intelligence race: will Australia lead or lose?. In *Journal and Proceedings of the Royal Society of New South Wales* (Vol. 152, No. 471/472, pp. 105-114).
- Wirtz, B. W., Weyerer, J. C., & Geyer, C. (2019). Artificial intelligence and the public sector—applications and challenges. *International Journal of Public Administration*, 42(7), 596-615.
- Wirtz, B. W., Weyerer, J. C., & Kehl, I. (2022). Governance of artificial intelligence: A risk and guideline-based integrative framework. *Government Information Quarterly*, 39(4), 101685.
- Wright, B. (2022). *'Happily ever after?' Readiness for change amongst managers in regard to the adoption of AI within an international bank* (Doctoral dissertation).
- Yerlikaya, S., & Erzurumlu, Y. Ö. (2021). Artificial intelligence in public sector: a framework to address opportunities and challenges. *The Fourth Industrial Revolution: Implementation of Artificial Intelligence for Growing Business Success*, 201-216.
- Ystgaard, K. F., & De Moor, K. (2023). Envisioning the future: A multi-disciplinary approach to human-centered intelligent environments. *Quality and User Experience*, 8(1), 11.
- Žigienė, G., Rybakovas, E., & Alzbutas, R. (2019). Artificial intelligence based commercial risk management framework for SMEs. *Sustainability*, 11(16), 4501.