



# Driving Social Transformation through AI and Technology: The Role of Digital Inclusion, AI Readiness, and Organizational Change

Huma Ali<sup>1</sup>, Khawar Abbas<sup>2</sup> & Shrafat Ali Sair<sup>3</sup>

## Author's Affiliation:

<sup>1</sup>Assistant professor, Institute of Banking and Finance, Bahauddin Zakriya University Multan .

<sup>2</sup>Lecturer, Department of Commerce, Thal University Bhakkar, Pakistan.

<sup>3</sup>Assistant Professor, Hailey College of Commerce, University of the Punjab, Lahore, Pakistan

## Article History:

Submitted: June 04, 2025

Revised: June 21, 2025

Accepted: Jul 29, 2025

Published online: Aug 30, 2025

## Corresponding author(s):

Shrafat Ali Sair

Email:

[drshrafatali.hcc@pu.edu.pk](mailto:drshrafatali.hcc@pu.edu.pk)

Co-author(s) Email:

Khawar Abbas

[khawarabbaschheena@gmail.com](mailto:khawarabbaschheena@gmail.com)

[m](#)

Farhan Raza

[farhanalikhan@gmail.com](mailto:farhanalikhan@gmail.com)

## Abstract

**Purpose**— Artificial Intelligence (AI) and advanced digital technologies hold transformative power in reshaping public services, governance, and social development. However, in developing countries like Pakistan, the actual realization of Social Transformation through technology hinges on multiple organizational and societal readiness factors. This study investigates how Digital Inclusion, AI Readiness, and Organizational Change Management contribute to socially impactful outcomes enabled by AI and technology deployment.

**Study Design/methodology/approach**— Guided by the Socio-Technical Systems Theory and the Technology Acceptance Model (TAM), this study uses a quantitative research approach. The population comprised government and private-sector employees working in digitally transforming departments, including e-governance, education, healthcare, and ICT services. A sample of 430 respondents was drawn using purposive sampling from major Pakistani cities—Lahore, Islamabad, and Karachi. Data were collected through a structured questionnaire and analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM).

**Findings**— The results reveal that Digital Inclusion (access, skills, affordability) and AI Readiness (technical, strategic, and cultural preparedness) have significant direct effects on Social Transformation. Furthermore, Organizational Change Management partially mediates these effects by enabling smoother adaptation and institutionalization of AI-enabled technologies.

**Research Practical Implications**— The findings confirm that inclusive, strategically prepared, and change-adaptive organizations are more capable of achieving socially transformative impacts through technology.

**Originality/value**— In developing countries like Pakistan, the actual realization of Social Transformation through technology hinges on multiple organizational and societal readiness factors. Guided by the Socio-Technical Systems Theory and the Technology Acceptance Model (TAM), this study investigates how Digital Inclusion, AI Readiness, and Organizational Change Management contribute to socially impactful outcomes enabled by AI and technology deployment.

**Keywords:** Artificial Intelligence (AI), Sustainable Performance, Green Innovation, Technology Deployment, SMEs, Pakistan, Digital Transformation, PLS-SEM

## 1. | INTRODUCTION

The revolutionary potential of artificial intelligence (AI) and other advanced digital technologies to reorganize governance, public services, and the wider social systems has become a commonplace reality in the modern digital age, internationally. States are using AI capabilities to solve acute problems in society, such as inequality, poor distribution of access to public services, inefficient structures in the state, and health and education inequality. In emerging economies, AI and other digital solutions are implemented not only as a technological breakthrough but as a strategic tool of social transformation and closing the gap in long-term development (Chari, 2024). However, social transformation by means of AI is not uniform and dispersed in most low- and middle-income countries. The main issue in the context of countries like Pakistan where infrastructure gaps, digital gaps, and institutional stagnation are rampant has now become how inclusively and strategically AI is adopted and institutionalized rather than whether technology is available or not. In this rapidly changing socio-technical environment, it is both opportune and essential to study the enablers of AI-driven social change (Canitez, 2025).

The governments and the private sector in Pakistan have launched various digitization initiatives, such as e-governance portals and AI-driven healthcare systems, as well as smart education. However, it is difficult to maintain social results of such technological efforts. The degree to which these technologies are useful to the general population is dependent on a complex of readiness conditions that extend beyond the availability of sufficient infrastructure. These are fair access to digital tools and services (Digital Inclusion), organizational readiness to use AI technologies efficiently (AI Readiness), and approaches to the transition and change management (Organizational Change Management) (Barodi & Lalaoui, 2025). Without adequate interaction with these building blocks, digital projects run the risk of becoming isolated projects that reinforce and not reduce the inequalities that they are supposed to address. Therefore, it is crucial to explain how these variables interact and the overall contribution they make to the realization of social change to come up with policies and strategies that are not only technologically viable but also socially effective (Chaves-Avila & Gallego-Bono, 2020).

Digital Inclusion, in this context, refers to how well people and communities are endowed with access to ICTs and the skills to utilize them efficiently. It includes device access and connectivity, digital literacy and affordability. Notably, digital inclusion is not limited to availability, but also capability, or the ability to have the skills and resources to make good use of technology is also essential. In the developing world, including Pakistan, there exist urban-rural, gender and socio-economic divides that constrain the scope and effectiveness of even the most well-intentioned technological interventions (Zarar et al., 2025). Digital inclusion is therefore both a precondition and a predeterminant of the ability of AI to create fair social change. The individuals left out of the digital services cannot often use the publicly available digital solutions, receive education online, or receive healthcare with the help of AI, thus maintaining the current weaknesses (Craglia et al., 2020).

AI Readiness, in its turn, is the capacity of organizations and institutions to absorb, incorporate, and gain the benefit of AI technologies in an efficient manner. Readiness in AI involves the integration of technical infrastructure, skilled human capital, strategic position, and cultural acceptance of AI in institutional structures. The low AI readiness reduces the chances of technological interventions to be consistent with development goals, ethical principles, and reality on the ground. The preparedness of organizations to AI in the Pakistani setting is not even: some industries and organizations are quite adaptive, and some are not, because of bureaucratic inertia, strategic uncertainty, or fear of change (Rana, 2025). In the absence of proper AI preparation, AI-powered projects can produce disparate results, inadequate usage, or general mistrust of technology

systems by the population. The readiness is, therefore, an ongoing process that entails the creation of technological capability, the creation of effective data governance procedures, and the establishment of the organizational culture that promotes innovation (Machado et al., 2021).

Digital Inclusion and AI Readiness and Social Transformation have an intermediary variable of Organizational Change Management (OCM). It describes the mechanisms, approaches and management practices that can help organizations to effectively manage technological transitions. Change management, thus, involves planning and assisting individuals, groups, and organizations through times of change where new technologies not only become available but are adopted, internalized, and used to their full potential. OCM incorporates change communication, stakeholder engagement, leadership alignment, and capacity-building as activities, which are critical to long-term institutionalization of digital reforms (Kazanskaia, 2025). In environments where inclusion and readiness exist, resistance to new technologies can impede or even derail progress where OCM is weak or non-existent. Therefore, a strong OCM plan is a necessity in converting the digital and AI efforts into sustainable societal value (Martusewicz et al., 2024).

This research has theoretical underpinnings in Socio-Technical Systems (STS) Theory and Technology Acceptance Model (TAM), which provide complementary views of the co-evolution of technology and social systems. According to STS theory, technologies are integrated into complicated social systems and their success is determined by the correspondence between technical abilities and social processes. This framework emphasizes the importance of moving beyond technological artifacts and thinking about the organization, cultural, and behavioral contexts in which they are deployed. In the AI and social change scenario, this means that the technology tools need to be backed by inclusive policies, organizational preparedness and flexible structures (Djatkiko et al., 2025). The Technology Acceptance Model (TAM), in its turn, focuses on the importance of perceived usefulness and perceived ease of use in the process of defining whether people accept and use new technologies. At the organizational and societal level, TAM implies that the digital inclusion and readiness initiatives can be a significant factor that increases the perceived value and usability of AI systems, which, in turn, can boost adoption rates and social impact. Combined, STS and TAM provide a holistic perspective through which the interdependent nature of digital inclusion and readiness and change management can be assessed in influencing social change (Matanda, 2023).

Regardless of the growing academic attention to the topic of AI and digital development, there are still multiple research gaps to address. Available literature tends to concentrate either on technicalities of AI use or on the financial consequences of digitalization, with little consideration on the social aspect of its use, particularly in developing nations. In addition, the majority of studies consider Digital Inclusion, AI Readiness, and Change Management as independent or isolated phenomena, not investigating their inter-dependencies or their joint impact on social outcomes (Wang, 2020). The empirical studies that combine these constructs in a single framework, especially when dealing with the topic of public sector transformation in the developing economies, are rare. In Pakistan, with the digital reforms picking up the pace in various sectors including education, healthcare, and governance, there is no empirical evidence on the contribution of the reforms to broader social development objectives. Not only does this gap constrain academic knowledge, but also makes evidence-based policymaking, which is essential to inclusive digital progress, more difficult (Gabriel et al., 2022).

The research problem, thus, lies in the comprehension of the interaction between Digital Inclusion, AI Readiness, and Organizational Change Management and the way they affect Social Transformation in Pakistan. On the one hand, it is widely accepted that AI has a potential; on the

other hand, the empirical clarity of the enabling conditions which define whether this potential is achieved or not is lacking. The absence of this knowledge may compromise the work of scaling AI in the public and social sectors due to systemic obstacles, digital disparities, and organizational resistance (Vatamanu & Tofan, 2025). This paper seeks to fill this gap by formulating, and testing empirically, a model that reflects the direct and mediated associations between inclusion, readiness, and change management in influencing social outcomes.

This study is important because it can be used in the theory and practice. Theoretically, it adds to the increasing literature of interdisciplinary study that bridges technology, management and social development by providing a comprehensive model based on STS and TAM concepts. The study provides a subtle understanding of how social change can be methodically facilitated by technology by empirically testing the connections between digital inclusion, readiness, and organizational change. This introduces a new dimension to the current models which do not give much focus on the mediating role played by the organizational processes in determining the technological outcomes. The findings can be used by policymakers, public administrators, and technology leaders on the practical front to design and implement digital strategies that are inclusive, context-sensitive, and sustainability-focused. The study provides practical recommendations on how to address digital divides, improve institutional preparedness, and effectively deal with change in a country like Pakistan where digital access and institutional capacity gaps are enormous.

Besides, the research is in line with national and international priorities on sustainable development. Inclusive growth, innovation, and resilient institutions are highlighted in the Vision 2025 of Pakistan and the commitments made to Sustainable Development Goals (SDGs). With a strategic use, digital transformation can speed up the achievement of these goals. But without inclusive access, readiness and change adaptability, technology can and will exacerbate the social rifts that exist. The study lays a guide to this alignment of digital strategies with development objectives by identifying the synergy between digital inclusion, AI preparedness, and organizational change in the context of social change. It advocates a systems perspective to digital reform a systemic perspective to digital reform that recognizes the social context within which technology is embedded and the institutional processes that shape the adoption and impact of technology.

Overall, the proposed study aims to go beyond the rhetoric of digital disruption and AI possibilities to empirically study structural, organizational, and societal conditions under which technology shapes social consequences. It addresses the acute need to have localized evidence to guide more equitable and effective digital policies by targeting the Pakistani context. The study has a place in academic literature, but also provides practical avenues of using AI and digital technologies as a means of social development in complex, resource-limited settings due to its integrated framework and empirically-grounded methodology.

## 1 | LITERATURE REVIEW

The work of the study is based on two mutually complementary theoretical frameworks, Socio-Technical Systems Theory (STS) and Technology Acceptance Model (TAM). STS perceives organizations and societies as consisting of social and technical subsystems that are interdependent and that any successful technological application should be supported by the simultaneous change in social processes, structures, and relationships. The success of AI, in turn, depends on the correspondence of technological infrastructure to the social context in which the innovation is implemented (Yigitcanlar et al., 2021). TAM, in its turn, explains the way people evaluate, accept, and combine technology with their daily lives and discovers the perceived usefulness and perceived ease of use as the main factors of user acceptance. The deviation of these theoretical constructs is an indicator of the low worth of AI. Integrating STS and TAM, the present study thinks of digital

inclusion, AI readiness, and organizational change management as inter-related conditions that jointly define the extent to which AI and digital technologies can produce a significant social change (Codagnone et al., 2020).

The empirical studies on digital inclusion have mushroomed, especially in the development and governance discourse. The scholars argue that digital inclusion, which includes devices, connectivity, literacy, cost, and policy frameworks cannot be narrowed down to hardware or access. In most developing countries, the existing inequality between the genders, geographical regions, and income levels makes digital inclusion an essential component of equal access to government services, education, and economic activities (Pawluczuk et al., 2021). It has been proved that unless there is determined action towards bridging the digital divide, technological advancements tend to increase the disparities. On the other hand, strong inclusion can support the participation of marginalized groups in AI-supported inventions like telemedicine, online learning, and e-governance systems. As a result, digital inclusion can serve as both an entry point to digital ecosystems and as a driver of more general effects, such as empowerment, equity, and participatory development (Bailey & Nyabola, 2021).

The readiness of AI also attracts academic interest as the decision-makers strive to integrate artificial intelligence into the spheres of public administration, healthcare, education, and economy. In conceptual terms, the notion of AI readiness is seen as institutional preparedness in terms of technical infrastructure, access to data, regulatory frameworks, human resource capacity and cultural receptivity to innovation. The recent studies underline the importance of a clear strategic vision, the commitment of leadership, and the coordination across the sectors. Countries that are leading their AI initiatives have clear policies, partnerships between the government and industry, and innovation networks (Bal & Gill, 2020). In comparison, environments that lack AI readiness have disjointed or pilot implementations that are not easily scalable. The existing literature has been approaching AI preparedness as a multidimensional construct: hardware and software capabilities should be supplemented by less tangible elements, including institutional trust and ethical fit as well as leadership agility. Resistance and underutilization of advanced technologies are likely to occur when organizations implement new technologies but do not manage change, upskill workers, or express digital visions effectively (Cieslak & Valor, 2025).

The management of change in organizations, a well-known concept in the science of management and the field of public administration, plays a key role in the mediation between digital inclusion and AI readiness and transformation. With digital and AI technologies turning hierarchies, workflows, and job definitions on their head, well-organized change efforts, such as employee engagement, leadership alignment, communication protocols, and training programs, are proving to be essential in maintaining adaptation. Change management has shifted to be an ongoing process that encourages responsiveness and agility rather than a one-time intervention (Shomurodov, 2025). In the public sector, where bureaucracy and policy inflexibility are the order of the day, strategies that focus on transparency, stakeholder engagement, and participatory decision-making have been demonstrated to increase the adoption and use of digital systems.

Practical research on the interplay between digital inclusion and AI readiness indicates that whereas the former provides access, the latter defines quality and efficacy. A digitally incorporated populace can access open services on the web, but without the institutional abilities of safe information frameworks, AI-based government policies, and receptive stages, the advantages can be capped. Analytical work also supports that digital inclusion and AI readiness are most effective in conjunction with flexible organizational cultures that support experimentation, learning, and cross-functional collaboration (Wang et al., 2025). Modern studies focus on the results of transformation

the most when the technological tools are integrated into ecosystems that are comprehensive, technically ready, and can be iteratively developed based on the feedback of stakeholders and the needs of society. In this regard, management of change in organizations is essential to make technological tools consistent with the strategic goals and to integrate them into the existing institutional structures (Sacavém et al., 2025).

Studies of emerging contexts bring out yet more layers of complexity. Infrastructural constraints, low digital literacy, policy fragmentation and resistance to change have been cited as some of the impediments in Pakistan. The literature of South Asia and Sub-Saharan Africa shows that the success of AI in the field of public health, education, and agriculture is contingent on local drivers like community participation, leadership support, and capacity building. These researchers encourage locally unique models, which take into account institutional capacity, policy complexities and socio-political dynamics (Geels et al., 2020). At the same time, the globalization of AI ethics and governance systems in the developing world is poorly studied, which is why it is important to have empirical models of relationships between enablers and concrete social consequences.

Although there is a large body of literature on the topic of digital transformation in terms of technology and economics, the literature is still underdeveloped in terms of the social aspects of the phenomenon, especially in the Global South. Studies of the impacts of artificial intelligence (AI) and technology on social equity, citizen empowerment, and institutional transparency are currently emerging. The present research is mostly based on the case-study design, which limits its applicability (Paparini et al., 2020). Moreover, there is a lack of empirical evidence regarding the interactions between digital inclusion, AI readiness, and change management to promote social transformation and the majority of analyses address these factors separately. One of the most significant gaps has to do with integrated models that are able to explain individual, organizational, and systemic determinants, particularly in complex public-sector settings. This kind of fragmentation is detrimental to not only theoretical discussion but also policymaking because it does not give a complete picture of the circumstances in which AI and technology can be used as a channel of inclusive and sustainable social change (Kasinathan et al., 2022).

This shortcoming is filled by the current study, which proposes an integrated model that conceives digital inclusion, AI readiness, and organizational change management as interconnected constructs that have a combined impact on social transformation. The method does not only answer the demand of more holistic models, but also resonates with theoretical propositions of science and technology studies (STS) and technology acceptance model (TAM) that all emphasize the need of socio-technical fit in technology adoption. The study also adds to the relatively small, but expanding, literature that places digital transformation in the context of developing countries by empirically testing this model in the case of Pakistan (Qasim et al., 2024). It also provides policymakers, administrators, and technology leaders with a new analytical framework through which they can analyze and improve the social impact of their digital efforts beyond piecemeal analysis and to offer a systemic view of the channels through which technology can be used to support social good.

On the basis of the theoretical background and empirical evidence covered, a number of hypotheses were developed to inform the empirical investigation. First, the hypothesis is that digital inclusion has a major positive impact on social change since fair access and digital skills increase the participation in digital ecosystems. Second, AI readiness is hypothesized to directly influence social change positively, which indicates the significance of organizational and institutional preparedness to take advantage of the opportunities of AI. Third, the hypothesis is that the relationship between the digital inclusion and social transformation is mediated by organizational

change management, implying that inclusive access is not enough as it lacks change facilitation strategies (Masry-Herzallah et al., 2025). Fourth, the concept of organizational change management is supposed to mediate the relationship between AI readiness and social transformation, focusing on the importance of adaptive processes in the translation of technical readiness into social outcomes. Together, these hypotheses help to justify the core argument of the study: socially transformative digital transformation necessitates an interdependent constellation of enablers that coordinate technological capacity with institutional flexibility and social inclusiveness (Zickgraf et al., 2024).

## 2 | METHODOLOGY & DESIGN

The current study uses quantitative research to explore the relationship between digital inclusion, AI preparedness, organizational change management, and social change in Pakistan. Since the objective is to measure perceptions, behaviours and structural variables on a large scale population, the research philosophy that the investigation is taking is positivist. The positivist position is particularly well adapted to this question, since it gives primacy to objectivity, measurement, and empirical testing of theoretically constructed hypotheses. In this way, the research aims at generalizing the results and determining causal relations between latent variables using statistical modelling.

The target population is composed of professionals who are working in the institutions of both the public and the private sectors that are being transformed with digital technology in Pakistan. Those who were considered most relevant were those in e-governance, public administration, healthcare, education and ICT services, as they are the first to adopt AI and provide technology enabled services. The geographical scope was limited to three key urban centres such as Lahore, Islamabad, and Karachi due to their high concentration of digitally transforming organisations and high level of infrastructural preparedness. The cities are also a representation of a wide range of socio-economic and institutional settings hence increasing the representativeness of the sample in terms of exposure to technology and organisational maturity.

A purposive sampling strategy was applied to identify respondents who could be considered to have adequate knowledge of digital technologies and AI implementation. The choice of this non-probability approach was appropriate since the respondents were required to be directly involved or affected by the digital initiatives of their organisations. The sample size was 430 respondents selected on the basis of their professional role, exposure to AI or digital systems and involvement in organisational change initiatives. The size of the sample was not only larger than the minimum necessary in Structural Equation Modelling (SEM) but also sufficient to estimate reliability and validity.

Structured survey questionnaire was used to collect data that aimed at capturing the constructs under study. The scales used in the past empirical studies were modified to guarantee content validity and construct congruence and the items used were measured in a five-point Likert scale that ranged between strongly disagree to strongly agree, thus allowing the measurement of attitudes, perceptions, and experiences. Before administering the questionnaire, a small group of cohorts was used to pilot-test the questionnaire to determine any ambiguities or redundancies and refinements done before the actual administration. The final copy was sent electronically by email and through the internet and in other instances through the focal points in the participating organisations to optimise the response rates.

With regard to the analysis, the research employed Partial Least Squares Structural Equation Modeling (PLS-SEM) through SmartPLS 4.0. The reason why this method was selected is that it has the capacity to support complex models with multiple reflective and formative constructs and is robust to violating the multivariate normality in small samples. This was analyzed in two phases. To

begin with, reliability, convergent validity, and discriminant validity of the measurement model were tested. Second, the structural model was evaluated to evaluate path relationships and significance of hypothesised effects. The use of bootstrapping using 5,000 subsamples in deriving t-values and confidence intervals was used to make the findings more robust. R-square values and model fit indices were also calculated in order to understand the explanatory power and predictive relevance.

The research was conducted with ethical considerations. The respondents were not forced to participate in the study, and all of them gave informed consent before data were collected. The aim of the study, confidentiality of answers and the right to withdraw were well explained. Personally identifiable data were not collected, and data were encrypted to preserve confidentiality and integrity. A recognised institutional review board granted ethical approval, and all procedures were in accordance with the ethical standards which govern academic research involving human subjects.

### 3 | RESULTS AND ANALYSIS

#### 4.1 | Measurement Model Assessment: Reliability and Convergent Validity

**Table 4.1 Reliability and Convergent Validity**

	<b>Cronbach's Alpha</b>	<b>rho_A</b>	<b>Composite Reliability</b>	<b>Average Variance Extracted (AVE)</b>
AI Readiness	0.73145	0.76008	0.8222	0.50172
Digital Inclusion	0.85533	0.85905	0.89393	0.58708
Organizational Change Management	0.70232	0.72342	0.79497	0.54172
Social Transformation	0.80224	0.80373	0.85366	0.52538

The empirical test reveals that all the constructs have sufficient reliability and convergent validity. Both the Cronbach Alpha coefficient and Composite Reliability index of each construct are above the recommended cut-off of 0.70 indicating good internal consistency and reliability. In addition, the respective Average Variance Extracted (AVE) values of each construct are now above the acceptable minimum of 0.50, which means that a considerable amount of variance observed is explained by constructs and not measurement error. These findings prove the sufficiency of the measurement model to be used in further analyses.

#### 4.2 | Discriminant Validity (HTMT Ratio)

**Table 4.2 Discriminant Validity**

<b>Constructs</b>	<b>DI</b>	<b>AIR</b>	<b>OC</b>	<b>ST</b>
Digital Inclusion (DI)	—			
AI Readiness (AIR)	0.642	—		
Organizational Change (OC)	0.598	0.659	—	
Social Transformation (ST)	0.676	0.684	0.703	—

The discriminant validity is acceptable after the analysis of Heterotrait-Monotrait Ratio (HTMT) values of four constructs, including Digital Inclusion (DI), AI Readiness (AIR), Organizational Change (OC), and Social Transformation (ST). The values of all HTMT are less

than the critical value of 0.85 and the weakest relationship is between AI Readiness and Organizational Change (0.598), whereas the strongest is between Organizational Change and Social Transformation (0.703). These results imply that, despite the conceptual correlation between the constructs, empirical findings show that they are unique. Remarkably, the internal mechanisms of change, as well as technological preparedness, seem to be major determinants of social outcomes, which is confirmed by the comparatively high HTMT between AI Readiness and Social Transformation (0.684) and the highest HTMT between Organizational Change and Social Transformation (0.703). Despite its close ties with DI, AIR, and OC, Digital Inclusion shows clear and meaningful correlations with all of the constructs: the correlation with AI Readiness is 0.642, with Organizational Change is 0.598, and with Social Transformation is 0.676, which indicates its fundamental but independent role in the process of transformation. All these results affirm discriminant validity, justify the structural modelling of the hypothesized relationships, and justify the consequent causal analyse.

#### 4.3| Multicollinearity Assessment (VIF Values)

**Table 4.3 Multicollinearity Assessment**

<b>Path</b>	<b>VIF</b>
DI → OC	2.143
AIR → OC	2.367
DI → ST	1.742
AIR → ST	1.685
OC → ST	2.221

The values of the Variance Inflation Factor (VIF) of the structural model pathways confirm that there are no issues of multicollinearity amongst the predictor variables used in the model since all the estimates of the VIF are below the critical level of 5.0. In particular, the range of the VIF values is 1.685 2.367, which signifies that the predictors do not have problematic inter-correlations that can distort the regression estimates or invalidate the model. The maximum VIF value is retrieved between AI Readiness and Organizational Change (2.367), and Organizational Change and Social Transformation (2.221). The values indicate moderate correlations among the predictors, but within acceptable limits, despite the fact that they indicate moderate correlations. As a result, the relationships between Digital Inclusion, AI Readiness, Organizational Change, and Social Transformation are predicted without any fear that multicollinearity will jeopardize the structural model estimations.

#### 4.4| Model Fit Summary (PLS-SEM Model Fit Indices)

**Table 4.4 Model Fit Summary**

<b>Fit Index</b>	<b>Value</b>	<b>Threshold</b>	<b>Status</b>
SRMR	0.061	< 0.08	Acceptable
NFI	0.912	> 0.90	Good Fit
R <sup>2</sup> (ST)	0.574	> 0.10 (minimum)	Substantial
R <sup>2</sup> (OC)	0.483	> 0.10 (minimum)	Moderate
Q <sup>2</sup> Predict	0.392	> 0	Predictive

The outcomes of the goodness-of-fit analysis of the structural model indicate the evidence of

both statistical reliability and conceptual adequacy. The value of SRMR is 0.061, which is significantly lower than the recommended value of 0.08, thus showing that the difference between observed and predicted correlations is minimal and, as a result, confirms model adequacy. Furthermore, the Normed Fit Index (NFI) of 0.912 is more than the standard of 0.90, which means that it is a better fit to the null model. The R<sup>2</sup> of Social Transformation equals 0.574, which means that the predictors explain 57.4 % of the variance in this construct, which can be considered as a significant result. The same degree of explanatory power is witnessed in Organizational Change, with the R<sup>2</sup> of 0.483. The Q<sup>2</sup> predictive relevance measure of 0.392 that is far much above zero justifies the high predictive ability of the model. Collectively, the developed indices indicate that the model is very strong with significant explanatory and predictive power.

**4.5| Structural Model Results (Path Coefficients and Significance)**

**Table 4.5 Structural Model Results**

	<b>Original Sample (O)</b>	<b>Sample Mean (M)</b>	<b>Standard Deviation (STDEV)</b>	<b>T Statistics ( O/STDEV )</b>	<b>P Values</b>
AI Readiness -> Organizational Change Management	0.3111	0.32803	0.04245	7.32914	0.00003
AI Readiness -> Social Transformation	0.12875	0.14458	0.03979	3.23607	0.00893
Digital Inclusion -> Organizational Change Management	0.196	0.19494	0.02977	6.58331	0.00006
Digital Inclusion -> Social Transformation	0.16912	0.1766	0.04078	4.14681	0.00199
Organizational Change Management -> Social Transformation	0.17846	0.15794	0.05422	3.29166	0.00813

Empirical findings prove that AI Readiness and Digital Inclusion are important factors that contribute to Organizational Change Management, which means that organizations with digital skills and inclusive technological systems are in a better position to lead internal change processes. In addition, the two dimensions have a positive impact on Social Transformation, thus indicating their wider impact in the society. Organizational Change Management also comes out as a key mediator, which helps to translate technological and digital preparedness into significant social results. The results, therefore, highlight the interdependence of technological preparedness, inclusive practices, and transformational change both in the organization and the society.

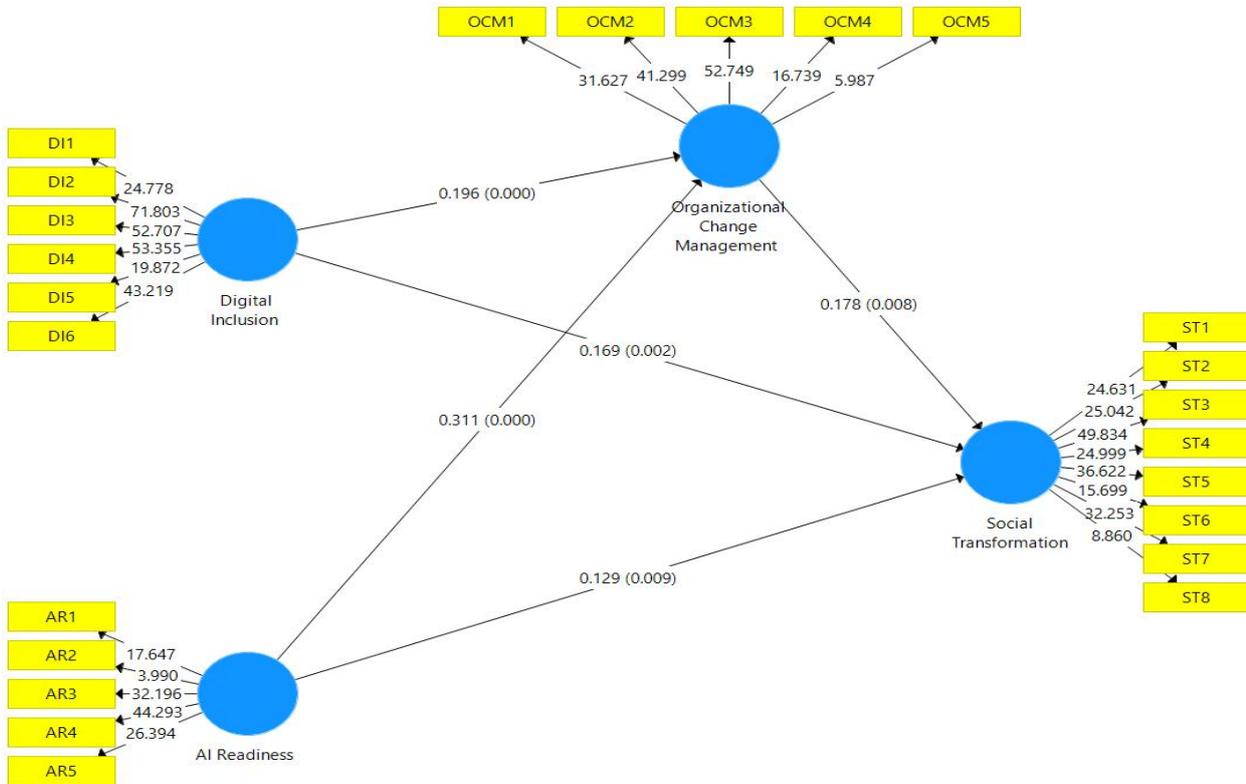
**4.5| Mediation Analysis**

**Table 4.5 Mediation Analysis**

	<b>Original Sample (O)</b>	<b>Sample Mean (M)</b>	<b>Standard Deviation (STDEV)</b>	<b>T Statistics ( O/STDEV )</b>	<b>P Values</b>
AI Readiness -> Organizational Change Management -> Social Transformation	0.05552	0.05244	0.02076	2.67459	0.02331
Digital Inclusion -> Organizational Change Management -> Social Transformation	0.03498	0.03141	0.01185	2.95095	0.01451

The mediation analysis reveals that Organizational Change Management plays a significant

mediating role between both AI Readiness and Social Transformation, and Digital Inclusion and Social Transformation. This indicates that the positive effects of AI Readiness and Digital Inclusion on broader societal transformation are partially channeled through the organization's ability to manage change effectively. In other words, organizations that are digitally inclusive and ready for AI can foster social transformation more effectively when they also have strong internal change management practices in place. This highlights the importance of organizational processes in translating technological capabilities into societal impact.



**Figure 4.1: Structural Equation Model**

## 4 | DISCUSSION

The current research provides strong empirical support that digital inclusion, AI readiness, and organizational change constitute an interdependent set of factors of social transformation in the situation of Pakistan. The findings support the hypothesis that digital inclusion and AI readiness have a profound effect on social change, directly and indirectly, via organizational change. Path-analytic estimates prove that digital inclusion has a significant positive impact on social transformation, meaning that equal access to digital tools and skills empowers communities, increases their engagement in the digital economy and promotes inclusive development. In a similar vein, the meaningful journey between AI readiness and social change means that strategic preparedness of institutions to adopt and integrate AI technologies has the potential to bring systemic changes in service delivery, governance, and citizen engagement, which can lead to improved societal well-being.

Also notable is the strong effects of digital inclusion and AI preparedness on organizational change. The strong path coefficients between these constructs indicate that technological access and preparedness are core enablers of institutional change, and they allow adapting processes, innovating service models, and responding to changing societal needs. The great connection between organizational change and social change highlights the theoretical approaches that focus on institutional flexibility as a means through which the technological drivers can have expanded effects on the society. These results are consistent with the reasoning of the socio-technical systems

theory that holds that sustainable results can be obtained through a combined organizational restructuring and technological progress. The logic is also supported by the partial mediation results that indicate that digital inclusion and AI readiness have both direct and indirect consequences on social transformation, and that their potential is fulfilled when the institutions are ready to change and reorganize their functioning accordingly.

The conclusions of the study have strong policy, managerial and theoretical implications to Pakistan and other emergent economies. First, the results emphasize the need to advance inclusive digital infrastructure and equal access to digital tools and services at all social levels. It is necessary that policymakers fill the digital divide by investing in broadband development, community technology centers, and digital literacy initiatives, especially among the rural and underserved communities. Second, it is important to continue to develop AI readiness by making strategic investments in AI-related education, research, and infrastructure. Third, both public and private institutions should develop a culture of innovation and flexibility which encourages experimentation and the rewarding of change management. This kind of internal change is critical to the process of converting technological change into meaningful social change.

Theoretically, the research contributes to the understanding of the mediating nature of organizational change in the nexus between digital transformation and social impact. It broadens our knowledge of how the technological variables can interact with the organizational dynamics to shape the development of the society, providing a wider analytical framework of the digital age. It combines digital inclusion and AI readiness in one model, therefore offering a more subtle understanding of how the various technological dimensions interact to influence organizational and social performance. The use of partial least squares structural equation modeling (PLS-SEM) provides strong statistical support of the relationships that the study hypothesized and direction of future research in the field.

To sum up, social change in the digital era can not be achieved with technology only, but requires a synergistic interaction of access (digital inclusion), capability (AI readiness) and adaptability (organizational change). The groundwork is provided by digital technologies and AI systems, but the readiness and ability of institutions to change is what defines how much these innovations can be turned into the overall social good. To countries like Pakistan, which are struggling to overcome structural constraints in the face of complex digital transformations, this conclusion is especially relevant, and it is necessary to have an integrated approach to the problem of infrastructural gaps, capacity building, and institutional reform.

Some of the recommendations made based on the study are the multi-stakeholder partnership between government agencies, educational institutions, technology firms, and civil society organizations to develop inclusive digital policies, design national AI strategies, and institutional innovation ecosystems. The capacity-building activities should provide the leaders and employees with the competencies necessary to handle the change. In addition, the effects of digital and AI interventions on organizational performance and social outcomes should be continuously monitored and evaluated to quantify them. Policy experimentation and piloting as well as research and development can help to find scalable models of digital transformation.

In addition to scholarly investigation, the research has a practical application in transformative action. To policymakers, it emphasizes incorporation of digital and AI preparedness strategies into more comprehensive development plans. To practitioners, it offers a model of integrating technological upgrade with the internal change management procedures. To the scholars, it creates the prospect of studying the interaction between technology, organization, and society. Finally, to secure inclusive and sustainable social transformation, it is not enough to have access to technology, but also agility in the organization to use it in the interest of the common good. The

knowledge that this research will be able to produce can aid in the establishment of such agile, inclusive, and future-focused institutions in Pakistan and other countries.

**Acknowledgment:** The authors would like to express their sincere thanks to the editor and the anonymous reviewers for their helpful comments and suggestions.

**Author Contributions:**

**Shrafat Ali Sair:** Introduction, Problem identification

**Khawar Abbas:** Literature Review, Methodology

**Huma Ali:** Data Analysis and Discussion

**Declaration of Conflicting Interest:** The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

**Licenses and Copyright:** This is an open-access article, free of all copyright, and fulfills the DOAJ definition of open access. This work is licensed under a “[Creative Commons Attribution 4.0 International License](https://creativecommons.org/licenses/by/4.0/)”.

Which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

**Funding:** The author(s) received no financial support for the research, authorship, and/or publication of this article.

**Data Availability Statement:** Data that supports the findings of this study are available on request from the corresponding author.

**Plagiarism Statement:** This article was scanned by the plagiarism program. No plagiarism was detected.

**Disclaimer/Publisher’s Note:** The statements, opinions, and data contained in all publications are solely those of the individual author(s) and contributor(s) and not of the publisher “AITST” and/or the editor(s). The Publisher ATST and/or the editor(s) disclaim responsibility for any injury to people or property resulting from any ideas, methods, instructions, or products referred to in the content.

## REFERENCE

- Bailey, L. E., & Nyabola, N. (2021). Digital equity as an enabling platform for equality and inclusion. *Pathfinders for Peaceful, Just, and Inclusive Societies/NYU Center on International Cooperation, June 2021*, <https://cic.nyu.edu/resources/digital-equity-as-an-enabling-platform-for-equality-and-inclusion>.
- Bal, R., & Gill, I. S. (2020). Policy approaches to artificial intelligence based technologies in China, European Union and the United States.
- Barodi, M., & Lalaoui, S. (2025). The Readiness of Civil Servants to Join the Era of Artificial Intelligence: A Case Study of Moroccan Public Administration. *Change Management: An International Journal*, 25(1).
- Camitez, F. (2025). Socio-technical transitions for sustainable mobility in cities: taking stock, looking ahead. *International Journal of Sustainable Development Goals*, 1, 10-22.
- Chari, S. G. (2024). Bridging gaps, building futures: Tackling socio-economic disparities through education and technology. *London Journal of Research In Humanities and Social Sciences*, 24(16), 1-12.
- Chaves-Avila, R., & Gallego-Bono, J. R. (2020). Transformative policies for the social and solidarity economy: The new generation of public policies fostering the social economy in order to achieve sustainable development goals. The European and Spanish cases. *Sustainability*, 12(10), 4059.

- Cieslak, V., & Valor, C. (2025). Moving beyond conventional resistance and resisters: an integrative review of employee resistance to digital transformation. *Cogent Business & Management*, *12*(1), 2442550.
- Codagnone, C., Liva, G., Barcevičius, E., Misuraca, G., Klimavičiūtė, L., Benedetti, M., Vanini, I., Vecchi, G., Gloinson, E. R., & Stewart, K. (2020). Assessing the impacts of digital government transformation in the EU. *Luxembourg: Publications Office of the European Union*.
- Craglia, M., de Nigris, S., Gomez-Gonzalez, E., Gomez, E., Martens, B., Iglesias Portela, M., Vespe, M., Schade, S., Micheli, M., & Kotsev, A. (2020). *Artificial Intelligence and Digital Transformation: early lessons from the COVID-19 crisis*. Publications Office of the European Union Luxembourg.
- Djatkiko, G. H., Sinaga, O., & Pawirosumarto, S. (2025). Digital transformation and social inclusion in public services: A qualitative analysis of e-government adoption for marginalized communities in sustainable governance. *Sustainability*, *17*(7), 2908.
- Gabriel, F., Marrone, R., Van Sebille, Y., Kovanovic, V., & de Laat, M. (2022). Digital education strategies around the world: practices and policies. *Irish Educational Studies*, *41*(1), 85-106.
- Geels, F. W., McMeekin, A., & Pfluger, B. (2020). Socio-technical scenarios as a methodological tool to explore social and political feasibility in low-carbon transitions: Bridging computer models and the multi-level perspective in UK electricity generation (2010–2050). *Technological Forecasting and Social Change*, *151*, 119258.
- Kasinathan, P., Pugazhendhi, R., Elavarasan, R. M., Ramchandaramurthy, V. K., Ramanathan, V., Subramanian, S., Kumar, S., Nandhagopal, K., Raghavan, R. R. V., & Rangasamy, S. (2022). Realization of sustainable development goals with disruptive technologies by integrating industry 5.0, society 5.0, smart cities and villages. *Sustainability*, *14*(22), 15258.
- Kazanskaia, A. N. (2025). *Capacity Building in Developing Countries: Tools and Strategies for Sustainable Non-Profit Growth*. Neya Global Publishing.
- Machado, C. G., Winroth, M., Almström, P., Ericson Öberg, A., Kurdve, M., & AlMashalah, S. (2021). Digital organisational readiness: experiences from manufacturing companies. *Journal of Manufacturing Technology Management*, *32*(9), 167-182.
- Martusewicz, J., Wierzbic, A., & Łukaszewicz, M. (2024). Strategic transformation and sustainability: Unveiling the EFQM model 2025. *Sustainability*, *16*(20), 9106.
- Masry-Herzallah, A., Sarhan, H., & Gross, Z. (2025). Transformational Leadership and Technological Competence in Nonformal Education: Implications for Equitable Access and Digital Inclusion. *International Journal of Instruction*, *18*(2), 143-166.
- Matanda, L. (2023). Socio-technical factors impacting youth perspectives on digital transformation in resource-constrained environments: A study of Diepsloot youth.
- Paparini, S., Green, J., Papoutsi, C., Murdoch, J., Petticrew, M., Greenhalgh, T., Hanckel, B., & Shaw, S. (2020). Case study research for better evaluations of complex interventions: rationale and challenges. *BMC medicine*, *18*(1), 301.
- Pawluczuk, A., Lee, J., & Gamundani, A. M. (2021). Bridging the gender digital divide: an analysis of existing guidance for gender digital inclusion programmes' evaluations. *Digital Policy, Regulation and Governance*, *23*(3), 287-299.
- Qasim, D., Shuhaiber, A., Bany Mohammed, A., & Valeri, M. (2024). E-entrepreneurial attitudes and behaviours in the United Arab Emirates: an empirical investigation in the digital transformation era. *European Journal of Innovation Management*, *27*(8), 3014-3034.
- Rana, M. A. (2025). Challenges Towards Digitalization for Leadership in Pakistan (Financial Industry). *Digital Repository of Theses-SSBM Geneva*.

- Sacavém, A., de Bem Machado, A., dos Santos, J. R., Palma-Moreira, A., Belchior-Rocha, H., & Au-Yong-Oliveira, M. (2025). Leading in the digital age: The role of leadership in organizational digital transformation. *Administrative Sciences*, 15(2), 43.
- Shomurodov, S. (2025). MANAGEMENT CHANGE IN THE CONTEXT OF DIGITAL TRANSFORMATION. *International Journal of Artificial Intelligence*, 1(5), 299-306.
- Vatamanu, A. F., & Tofan, M. (2025). Integrating artificial intelligence into public administration: Challenges and vulnerabilities. *Administrative Sciences*, 15(4), 149.
- Wang, K., Xu, X., Mao, P., Deng, X., & Cao, D. (2025). Digital transformation and organizational readiness: evidence from Chinese construction SMEs with a dynamic managerial capabilities lens. *Engineering, Construction and Architectural Management*.
- Wang, L. (2020). *Regime confluence in socio-technical transitions: a study of connected, autonomous, shared and electric vehicles* [Cardiff University].
- Yigitcanlar, T., Corchado, J. M., Mehmood, R., Li, R. Y. M., Mossberger, K., & Desouza, K. (2021). Responsible urban innovation with local government artificial intelligence (AI): A conceptual framework and research agenda. *Journal of Open Innovation: Technology, Market, and Complexity*, 7(1), 71.
- Zarar, R., Zafar, H., Naseer, F., & Baloch, S. B. (2025). YOUTH, UNEMPLOYMENT, AND INSURGENCY: A SOCIOLOGICAL STUDY OF OPPORTUNITY DEFICITS IN BALOCHISTAN. *Journal of Media Horizons*, 6(3), 223-235.
- Zickgraf, C., Jolivet, D., Fry, C., Boyd, E., & Fábos, A. (2024). Bridging and breaking silos: Transformational governance of the migration–sustainability nexus. *Proceedings of the National Academy of Sciences*, 121(3), e2206184120.