

AI ADOPTION, DIGITAL SKILLS AND WORKFORCE TRANSFORMATION: A STUDY ON READINESS AND RESILIENCE

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Abstract—Technological advancements are continuously transforming the business environment, compelling employers to adapt their workforce to changing business requirements. Employees are expected to work innovatively and perform tasks more efficiently with the support of Artificial Intelligence (AI). AI adoption is transforming the workforce and contributing to the advancement of the IT, textile marketing, education, and e-pharmacy sectors. The purpose of the study is to identify the digital skills required by employees and examine the impact of AI adoption, employee readiness, and workforce resilience on successful workforce transformation. Data were collected using a structured questionnaire, and a five-point Likert scale was employed to measure the study variables. A simple random sampling method and descriptive research design were adopted for the study. Descriptive statistical tools, including percentage analysis, mean, and standard deviation, were used to assess the level of AI adoption and digital skills among employees. Structural Equation Modeling (SEM) was employed to analyze the impact of AI adoption, employee readiness, and workforce resilience on successful workforce transformation. The findings reveal high AI adoption and stronger managerial digital skills among employees. AI adoption, employee readiness, and workforce resilience significantly enhance digital skills. AI adoption and workforce resilience significantly contribute to successful workforce transformation, whereas digital skills alone do not have a significant direct effect on successful workforce transformation.

Keywords: AI Adoption; Digital Skills; Employee Readiness; Workforce Resilience; Workforce Transformation.

INTRODUCTION

Technology is changing rapidly due to continuous innovation in the current business environment. In response to the changing needs and wants of customers, the IT sector, textile marketing, the education sector, and the e-pharmacy industry are adopting new technologies for marketing, customer service, student support, and the delivery of various other services. Artificial Intelligence (AI) has emerged as an advanced technology that plays a significant role in the present business environment. Workforce transformation has become unavoidable to cope with these technological changes. Employees need to continuously adapt their knowledge and skills to meet evolving industry expectations. They are required to develop digital skills and competencies, while organizations need to strengthen digital competence, adaptability, readiness, and resilience among their workforce.

AI ADOPTION ACROSS DIFFERENT SECTORS

Artificial intelligence has influenced a variety of fields and has brought significant changes to different sectors. Often, top-level authorities make corrections when employees submit reports; however, such corrections have been reduced due to the use of AI by employees.

(i). AI Adoption in Information Technological Sector: Artificial Intelligence has transformed marketing methodologies in businesses, improved sales, and enhanced customer retention in service industries. Employees are increasingly adopting innovative approaches to accomplish their tasks and are completing assignments more quickly and efficiently before deadlines.

(ii).AI Adoption in Textile and Marketing: AI has enhanced operational efficiency in textile mills. It helps identify defects in the production process and finished products. Industrialists provide proper training to their employees to effectively use AI technologies. These improvements enable employees to support organizational processes and contribute to the success and growth of textile mills.

(iii).AI Adoption in Education Sector: Teaching institutions can prepare study materials to support teaching and learning. They can prepare PowerPoint presentations, videos, pictures, and charts to explain concepts clearly to students. Students can update their knowledge and complete and submit assignments with the help of AI.

(iv).AI Adoption in E-Pharmacy Sector: Employees can simplify their work with the help of AI. They can perform tasks more efficiently and adopt innovative ways of completing their work on time. AI enables employees to understand customers' preferences and provide better services through e-platforms. It also helps employees to process orders accurately and efficiently according to customer requirements and within the specified time.

STATEMENT OF THE PROBLEMS

Artificial Intelligence (AI) has assumed an increasingly important role in the administrative functions of various sectors, as well as in production, marketing, and customer service. However, employees and organizations often face challenges regarding where, when, and how AI should be used effectively in the workplace. Although AI provides significant support in performing various tasks, the information generated by AI may sometimes contain errors, inaccuracies, assumptions, duplication, or irrelevant information. Therefore, employees need to continuously improve their knowledge and digital skills to understand, evaluate, and verify AI-generated information. They must identify the relevant and accurate information and appropriately edit, modify, and adapt it according to their job requirements to perform their tasks effectively. Despite these challenges, AI technology provides substantial support to employees across various aspects of their work. This study aims to assess the impact of AI adoption, workforce readiness, resilience, and digital skills on workplace transformation and to identify how the effective adoption of AI can contribute to improved employee performance, efficiency and organizational success.

REVIEW OF LITERATURE

Abusalma,W.(2023) examined the application of Artificial Intelligence (AI) in accounting information systems in commercial banks in Jordan. The study focused on the use of AI in facilitating communication and the exchange of correspondence between clients and bankers. The findings suggested that AI could contribute to improving the quality of accounting information and enhancing the efficiency of responding to clients' correspondence. Edwin,J.(2023) The firm attempted to implement Artificial Intelligence (AI) by collecting relevant data and analyzing it using AI-based tools. The findings suggested that AI-based analysis could support portfolio benchmarking and improve the evaluation of systematic risk in investment decision-making. Minhcao,T.,& Nguyen,T.V.(2024) focused the methodology used and factors influenced to recruitment with the help of AI in selected firms in Asian countries. Their study highlighted that AI supported to HR managers to find talent candidates. Routray,R.,& Khandwlwal,K.(2024) examined the skills required by students to secure employment in AI-driven industries. The study also investigated the impact of technostress associated with learning AI and its implications for the teaching, learning, and evaluation processes. In addition, the study evaluated the implementation of AI in higher education.

Alghazzawi,R.(2024). the study revealed that accounting processes can be carried out with the support of Artificial Intelligence (AI). AI enables faster evaluation and enhances the efficiency and accuracy of accounting activities. The researcher suggested that AI can improve the efficiency of specific accounting processes, particularly those involving routine and repetitive entries. Evanthia,K.Z.,& Christopoulos,A.(2025) examined the concept of systematic firm risk in relation to the Capital Asset Pricing Model (CAPM) and its economic significance. The study highlighted the potential of Artificial Intelligence (AI) to identify systematic risk factors through data analysis. Rithesh,T.,& Hydersha.(2024). The study highlighted that workforce transformation has become essential for organizations to cope with rapid technological changes. It emphasized that employees need to continuously update their knowledge and skills to adapt to evolving technologies and meet changing industry expectations. Evanthia,K.Z.,& Christopoulos,A.(2025) The study revealed that the pricing framework was influenced by market competition and risk factors. It further highlighted that Artificial Intelligence (AI) could monitor market changes, analyse relevant information, and provide recommendations to support business decision-making and organisational success. Soomro,S.,& Mingyue et al.(2026) focused on the role and capacity of top-level authorities in adopting AI in the workplace. The findings indicated that organizational support can help employees adapt to AI-based technologies and reduce their anxiety, difficulties, and resistance associated with AI adoption. Rohit,K.,& Vishwakarma,P.(2026) examined the impact of chat bots adoption in the service sector. The

study revealed that service-sector industries adopted chat bots at a moderate level to support and regulate their activities. The findings further indicated that perceived risk and behavioural intention were significantly influenced by chat bots adoption. Triangga,B.,& Noermijati,N.(2026), The study revealed that Artificial Intelligence (AI) supports students in enhancing their knowledge and completing and submitting academic assignments. The findings highlighted that AI facilitates independent learning and provides academic support to students Alamaki,A.(2026) conducted a study in Finland focusing on organisations that provide services to the public and government. The findings indicated that organisations need to strengthen their technological networking capabilities and implement innovative management practices to support organisational development and growth. Peterfirz,H.(2026) examined the role of resilience in responding to the impact of Artificial Intelligence (AI) on innovative practices. The study highlighted the importance of leadership qualities in motivating and inspiring employees to adapt to AI-driven changes.

OBJECTIVES OF THE RESEARCH

- To understand the demographic characteristics of the respondents in different sectors.
- To examine the AI adoption among employees in selected sectors.
- To identify the digital skills of employees to implement AI in the workplace
- To assess the impact of AI adoption, readiness and resilience on successful workforce transformation
- To give suggestion for further improvements to promote the growth of selected sectors.

RESEARCH METHODOLOGY

A descriptive research design has been adopted to analyze the demographic characteristics of the respondents, their skills, AI adoption, readiness and resilience on successful workforce transformation. Primary data are collected from respondents using a structured questionnaire designed on a five-point Likert scale. Simple random sampling method is used. 480 respondents were picked from specific selected sectors to make up the sample. 120 respondents are selected from each sector to guarantee fair representation.

TABLE No 1.1 CLASSIFICATIONS OF RESPONDENTS FROM SELECTED SECTORS

Selected sectors	No. of Respondents	Percentage from each Taluk
IT sector	120	25%
Textile & marketing	120	25%
education sector	120	25%
e-pharmacy sector	120	25%
Total	480	100%

Source: Primary data

TEST FOR RELIABILITY

TABLE No 1.2 CRONBACH'S ALPHA TEST FOR QUESTIONNAIRE CONSTRUCTS

S.No.	Construct	No. of Items	Cronbach Alpha
1.	AI adoption by employees	5	0.902
2.	Employee Readiness	5	0.897
3.	Workplace resilience	5	0.892
4.	Digital Skills of employees	7	0.874
5.	Successful workforce transformation	14	0.964

Source: Primary data

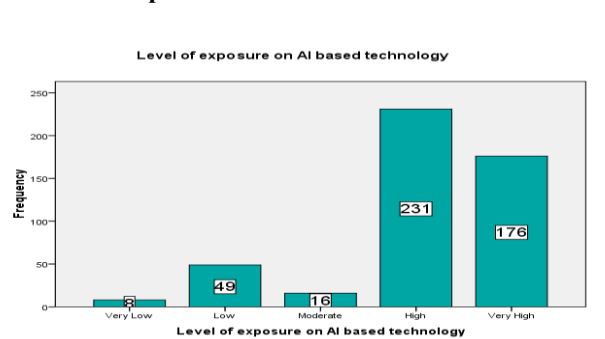
Descriptive statistical analysis is used to examine the profile of the respondents, including their work experience and level of AI adoption. The levels of AI adoption and usage are varied across the selected sectors.

TABLE No 2.1 EXPERIENCE OF THE EMPLOYEES

Experience	Frequency	Percent	Chart- Experience of Employees 
Less than 5 Years	74	15.4	
5 Years to 10 Years	177	36.9	
11 Years to 15 Years	96	20.0	
16 Years to 20 Years	73	15.2	
Above 20 Years	60	12.5	
Total	480	100	

The above table indicates the work experience of employees working in the IT sector, textile and marketing sectors, education sector and e-pharmacy sector. It is observed that 15.4 percent of the employees have less than five years of work experience. A majority of the employees (36.9 percent) have between five and ten years of work experience.

TABLE No 2.2 CLASSIFICATION ON THE BASIS OF LEVEL OF AI EXPOSURE

Level	Frequency	Percent	Level of AI Exposure 
Very Low	8	1.7	
Low	49	10.2	
Moderate	16	3.3	
High	231	48.1	
Very High	176	36.7	
Total	480	100	

The above table proclaims the level of AI adoption among employees. A further 3.3 percent of the employees have a moderate level of AI adoption. Nearly half of the employees (48.1 percent) have a high level of AI adoption, while 36.7 percent have a very high level of AI adoption.

TABLE No 3.1 MEAN AND STANDARD DEVIATION: DIGITAL

	N	Min	Maxi	Mean	Std. Deviation
Computer skill	480	1	5	3.95	0.798
Digital devices handling skill	480	1	5	2.36	1.180
Managerial skill to manage digital information effectively	480	1	5	4.32	0.969
Reading and Editing skills	480	1	5	2.96	1.480
Skills of Check reliability and accuracy	480	1	5	4.27	0.968
Work related problem solving skills	480	1	5	4.14	0.890
Decision making skills by using digital data	480	1	5	4.13	0.924

Source: Primary data

The above table highlighted the mean score and SD of skills of employees in the IT sector, textile and marketing sectors, education sector and e-pharmacy sector. Mean value of computer skill of employees is 3.95 and SD is 0.798; Mean value of Decision making skills by using digital data of employees is 4.13 and SD is 0.924. Mean value of Digital devices handling skill and Reading and Editing skills less than three.

STRUCTURAL EQUATION MODEL

Structural equation model plays a crucial part of this research. It explains the impact of AI adoption, readiness and resilience on successful workforce transformation

H01: This model is good fit **H11:** This model does not a good fit

TABLE No 4.1 CMIN AND DF OF AI ADOPTION, READINESS AND RESILIENCE

Model	NPAR	CMIN	DF	P	CMIN/DF
Default model	14	1.071	1	0.301	1.071
Saturated model	15	0.000	0		

The above table depicted that CMIN AND DF of AI adoption, readiness and resilience on successful workforce transformation. CMIN/DF value is less than five and ‘P’ value is 0.302. Chi-square value is 1.071. So model is a good fit.

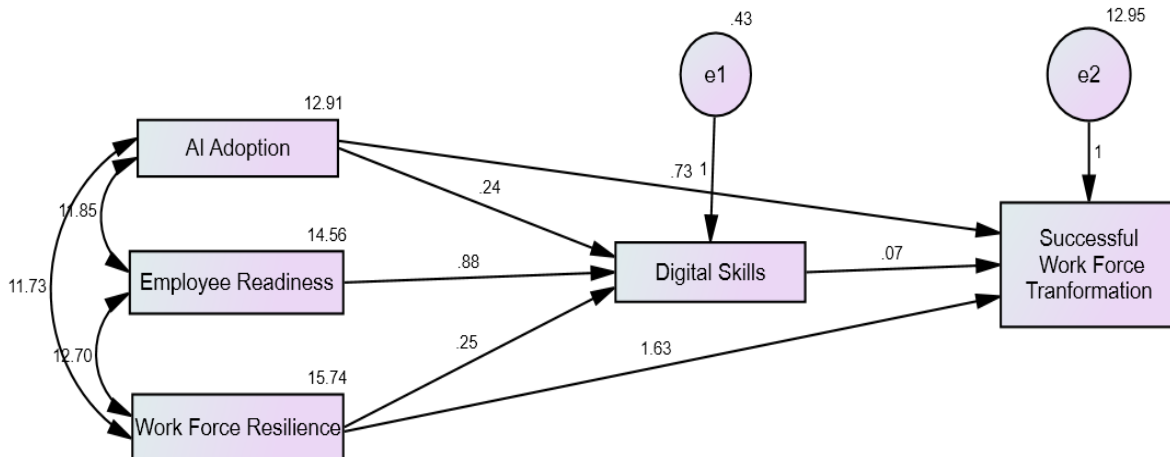


TABLE No 4.2 REGRESSION WEIGHTS

			Estimate	S.E.	C.R.	P
Digital Skills	<---	AI Adoption	0.237	0.018	13.354	***
Digital Skills	<---	Employee Readiness	0.877	0.018	50.096	***
Digital Skills	<---	Work Force Resilience	0.247	0.015	16.586	***
Successful workforce Transformation	<---	Digital Skills	0.073	0.100	0.731	0.465
Successful workforce Transformation	<---	AI Adoption	0.730	0.109	6.686	***
Successful workforce Transformation	<---	WorkForce Resilience	1.633	0.093	17.516	***

Source: Primary data

AI adoption of employees can so their work in simplify manner. Employees are doing Innovative way of complete the task. AI has reduced repetitive and complexity of work . CR value is out of the range between + 1.96 to -1.96. ‘Employers

and employees are ready to adopt and update new changes like AI. Employees ready to attend training to update AI technology. They developed variety of skills for successful workforce transformation. 'P' value is less than 0.05 except digital skills towards transformation. Employees have to further develop skill to utilize technology. This out put highlights the impact of AI adoption, readiness and resilience on successful workforce transformation

FINDINGS OF THE RESEARCH

1. The findings reveal that AI adoption among employees is predominantly at a high or very high level. Nearly half of the respondents (48.1 percent) report a high level of AI adoption.
2. The descriptive analysis shows that employees possess comparatively higher levels of managerial skills for managing digital information, with a mean score of 4.32 and a standard deviation of 0.969.
3. Digital device-handling skills have a relatively lower mean score of 2.36 (SD = 1.180), while reading and editing skills have a mean score of 2.96 (SD = 1.480). Since both mean scores are below 3.00, these areas require greater attention and further development.
4. AI adoption has a positive and statistically significant influence on digital skills (Estimate = 0.237, C.R. = 13.354, $p < 0.001$). Employee readiness has a strong positive and statistically significant influence on digital skills (Estimate = 0.877, C.R. = 50.096, $p < 0.001$).
5. Workforce resilience has a positive and statistically significant influence on digital skills (Estimate = 0.247, C.R. = 16.586, $p < 0.001$).
6. Digital skills have a positive but statistically insignificant influence on successful workforce transformation (Estimate = 0.073, C.R. = 0.731, $p = 0.465$). Since the p-value is greater than 0.05, the direct effect of digital skills on successful workforce transformation is not statistically significant in the proposed model.
7. AI adoption has a positive and statistically significant influence on successful workforce transformation (Estimate = 0.730, C.R. = 6.686, $p < 0.001$). The finding indicates that employees' adoption of AI contributes significantly to the successful transformation of the workforce.
8. Workforce resilience has a strong positive and statistically significant influence on successful workforce transformation (Estimate = 1.633, C.R. = 17.516, $p < 0.001$). This finding highlights the importance of employees' ability to adapt to technological changes and overcome challenges in achieving successful workforce transformation.

IMPLICATIONS OF THE STUDY

The study implies that AI adoption, employee readiness, and workforce resilience are important for successful workforce transformation. Organisations should provide continuous training and development programmes to strengthen employees' digital competencies, particularly in digital device handling and reading and editing skills. Employees should continuously update their knowledge and adapt to technological changes. Management should promote supportive leadership, responsible AI usage, and reskilling initiatives. Educational institutions and policymakers should also strengthen AI literacy and industry-oriented digital skill development.

CONCLUSION

The study concludes that AI adoption and workforce resilience significantly contribute to successful workforce transformation. Employee readiness strongly supports digital skill development, while certain digital skills require further improvement. Organizations should therefore focus on continuous training, reskilling, responsible AI usage, and supportive leadership. Strengthening employee capabilities and adaptability can enable organizations to achieve sustainable and effective workforce transformation.

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