Beyond Automation: How AI is Reshaping the Job Market and Redefining What it Means to be Career Ready

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ABSTRACT

In an era defined by digital transformation, Artificial Intelligence (AI) is fundamentally reshaping the world of work and redefining the notion of career readiness. As industries integrate intelligent systems into their operations, higher education must evolve to equip students with the competencies required to navigate the AI-driven landscape. This qualitative study examines undergraduates' perceptions of AI's impact on employability, skill development, and future career preparation within the context of Pakistan's higher education system. Using purposive and snowball sampling, twenty-one semi-structured interviews were conducted with final-year students across STEAM disciplines. The data were analyzed through Reflexive Thematic Analysis (RTA) to identify patterns in how learners interpret AI's role in shaping future career pathways. Findings indicate that students perceive AI as both an opportunity and a challenge, enhancing efficiency, innovation, and access to knowledge, while also raising concerns about its ethical, technical, and adaptability implications. Participants emphasized the growing need for hybrid skill sets that blend technological fluency with human capabilities such as creativity, communication, and critical thinking. The study provides a framework, illustrating what is currently happening in the labour market and what needs to be done to learn to foster sustainable employability in an evolving job market.

Keywords: Artificial Intelligence, Career Readiness, Employability, Soft skills, AI-related skills, Thematic Analysis

INTRODUCTION

The accelerating integration of Artificial Intelligence (AI) into the world of work is reshaping the very foundation of the global labour market. Once confined to automation and efficiency, AI now influences decision-making, recruitment, skill development, and the overall nature of employment. AI is not only influencing how we work but also redefining the skills needed to navigate this new professional ecosystem (Acemoglu & Restrepo, 2019; Brynjolfsson & McAfee, 2017; Zouheir, 2025). As intelligent systems continue to evolve, industries across sectors are undergoing significant transformations, creating new opportunities while simultaneously displacing traditional roles. This paradigm shift necessitates a re-evaluation of what it means for students to be "career-ready" in an AI-driven job market (Wong, 2024). This study holds significant importance for understanding how undergraduate students perceive the growing role of Artificial Intelligence (AI) in shaping their career readiness. As universities worldwide transition toward technology-enhanced learning and AI-integrated systems, undergraduates represent a critical group navigating this evolving academic and professional landscape. Their perceptions provide valuable insight into how future graduates interpret, accept, and prepare for AI-driven transformations in the labour market.

LITERATURE REVIEW

In today's dynamic job landscape, employability is no longer determined solely by technical expertise or academic credentials. Instead, adaptability, emotional intelligence, and the capacity for lifelong learning have emerged as essential attributes for sustained success. The human ability to interpret, empathize, and innovate remains a crucial differentiator in an age where machines can replicate many cognitive and operational tasks.

Consequently, understanding how individuals, particularly students as future professionals, perceive and prepare for these changes offers valuable insight into the evolving relationship between humans and technology in the labour market (Ojan et al., 2025; Poláková et al., 2023; Zeineb Mezghani & Turki, 2025). While AI offers immense potential to support human development, its rapid advancement also presents complex challenges. Concerns related to job displacement, ethical decision-making, digital inequality, and overreliance on technology have intensified debates surrounding the future of work. At the same time, AI holds the potential to enhance employability by acting as a tool for personalized learning, career exploration, and skill acquisition (Mughal & Qureshi, 2025). Navigating the duality of AI as both a disruptor and an enabler requires a nuanced understanding of how students approaching the job market adapt to technological change (Khogali & Mekid, 2023; Paić & Serkin, 2025; Sharps, 2024).

Artificial Intelligence (AI) is no longer a distant innovation confined to advanced economies or techdriven industries; it is a transformative force that is reshaping economic landscapes globally. The past decade has witnessed a dramatic acceleration in the development of AI technologies. This momentum has been driven largely by breakthroughs in machine learning and the exponential growth of available data, which fuel increasingly sophisticated AI systems capable of performing complex tasks (Acemoglu & Restrepo, 2020). These innovations are rapidly reshaping business operations across industries, from manufacturing and logistics to finance, healthcare, and education. Compounding this transformation is a structural shift in workplace models following the COVID-19 pandemic. During the peak of the pandemic, the vast majority of employees, nearly 90% worked on-site. However, by 2022, this number had decreased to approximately 60%, stabilizing as hybrid and remote work models became embedded in organizational culture (Acemoglu & Restrepo, 2020; Battisti et al., 2022). Due to this, the global labour market is undergoing profound transformations, with particularly critical shifts observed in developing economies. Labour shortages are intensifying as unemployment rates reach historic lows and the gap between job vacancies and available talent continues to widen. This growing tension is largely fueled by demographic changes, most notably the ageing of populations and a gradual decline in average working hours per employee, especially within European nations (OECD, 2024; World Economic Forum, 2025).

In addition, companies face increasing difficulty finding skilled workers, heightening recruitment and retention competition (Selenko et al., 2022).AI is both disruptive and an opportunity, creating new work types by reconfiguring roles, eliminating some tasks, and generating demand for others needing oversight or interpretation. AI's workplace role is not just subtractive; it enables new job categories. By automating tasks, optimizing workflows, and offering real-time insights, AI streamlines processes and boosts productivity, with gains spreading across industries like research, cybersecurity, and data science. This growth supports job creation and skills development, helping counteract labor shortages with meaningful, well-paying work. AI is transforming work structure, location, and valued skills. While job displacement concerns exist, AI also offers broader benefits such as employment growth and economic resilience. Policymakers, educators, and employers must focus on reskilling, digital literacy, and inclusive policies to ensure sustainable growth in an AI-driven economy (Selenko et al., 2022). While developed countries are leading in AI implementation, many developing nations are still struggling to catch up. Pakistan's education sector faces multiple systemic barriers that prevent the development of a skilled, future-ready workforce. Key issues include underfunding, poor policy implementation, outdated curricula, a lack of qualified teachers, and weak school governance. The education budget remains among the lowest in South Asia, at approximately 2% of the country's GDP, significantly hindering quality improvements. A major concern is the country’s high out-of-school population.

Nearly 22.8 million children aged 5 to 16 are not enrolled in school, with girls and marginalized communities disproportionately affected. Regions like Sindh and Balochistan exhibit severe gender disparities, where up to 78% of girls are out of school. While over 10 million boys and 8.6 million girls attend primary school, enrollment drops drastically at the secondary level. Pakistan’s labour market is increasingly demonstrating an inability to sustain the previous pattern of employment absorption (Sain, 2023; Qasim, 2025).

Although AI has the potential to create new jobs, particularly in areas like AI system maintenance, data analytics, and digital services, it also poses a significant risk of displacing traditional roles, especially in

agriculture, manufacturing, and clerical work. As AI could generate more jobs than it eliminates by spawning entirely new industries. However, these new roles typically require high technical skills, leaving behind workers who lack the training to transition. This growing mismatch between labour supply and demand has resulted in a dual burden: both unemployment and underemployment (Ali et al., 2025; PIDE, 2021). Although the overall unemployment rate remains around 5% and may not appear alarming at first glance, what is particularly troubling is its disproportionate impact on specific segments of the population. The highest incidence of joblessness is observed among young individuals, particularly those who are educated and possess vocational or professional training, indicating a significant disconnect between educational outcomes and labour market demands (Chan & Hu, 2023). Additionally, the World Economic Forum's Future of Jobs 2020 report states that the COVID-19 pandemic-induced recession and the quick advancement of automation technology are altering the labour market far more quickly than anticipated. In terms of Jobs, such as data entry, accounting, and administrative services, are among the skilled jobs that are in high demand. AI, a key component of the fourth industrial revolution, unavoidably alters the labour force's composition and human social standing (Habets et al., 2020; Shen, 2024).

The demands of the labour market have drastically changed in recent decades, especially with the advent of new 21st-century work organisation methods. Increased competition, work intensity, faster work pace, shorter lead times, the expansion of various flexible work contracts (including part-time work), and the greater decentralisation of decision-making authority and responsibilities are all indicators of these new work arrangements (Borg et al., 2025). As a result of these shifts, a sustainable entry into the labour market has become essential. Interest in graduates' so-called "work-readiness" has skyrocketed due to several factors, including concerns that educational systems may inadequately prepare students with the employment skills required today. Individual career paths have become less stable, career prospects more uncertain, and the fit between education and future labour market needs increasingly fragile. Graduates must now be better equipped to face this evolving environment (Frey & Osborne, 2017; Kim & Kim, 2024).

METHODOLOGY

Artificial Intelligence (AI) is transforming the landscape of professional life, with impacts that are expected to be far-reaching and enduring. As AI continues to influence industries and redefine employability and the world of work, it becomes crucial to explore its implications for career readiness. In alignment with Sustainable Development Goal 4 (Quality Education), this study seeks to understand how students perceive AI’s role in shaping their preparedness for the future workforce within Pakistan’s evolving job market. The study is guided by one overarching research question and three supporting sub-questions:

Central Research Question:

1. How do undergraduate students perceive the role of AI in enhancing career readiness?

Sub-Questions:

1. What are students’ perceptions of AI and its growing influence on the world of work?
2. How do undergraduate students view the impact of AI on future employment opportunities and skill requirements?
3. What are students’ perceptions on developing AI-related competencies to remain career-ready in an AIdriven job market?

Data for this qualitative inquiry were gathered through semi-structured interviews, reflexive journals, and secondary sources, including reports from the World Economic Forum (2023–2025) and the National Artificial Intelligence Policy (2025) and a draft (2023). A total of 21 undergraduate participants from STEAM disciplines (11 male, 10 female) were involved, which was deemed sufficient for depth and diversity in insights (Qureshi, 2018a). Each interview lasted at least forty minutes and adhered to ethical research standards (NCDA, 2024).

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Table 1 Demographics of the Participants

Gender	No. of Participants	Age Range	Educational Background
Female	10	22-24	STEAM/STEM
Male	11	22-23	STEAM/STEM

The data were collected using purposive sampling and snowball sampling techniques in a nested sampling scheme (Qureshi, 2018 b). Purposive sampling was employed to gather data from students who met the inclusion criteria: they were enrolled in STEAM fields as final-year students of HEIs in Pakistan, had used AI in their student life, and resided in urban cities in Pakistan. To uphold rigor and credibility, a dual strategy was implemented: first, the Instrument for Theoretical Saturation Evaluation Tool was used (Ünlü & Qureshi, 2023). Second, to maintain trustworthiness, procedures such as member checking, peer debriefing, and expert validation were adopted and recorded in a systematically maintained audit trail (Linkon & Guba, 1985).

Analysis

The collected data were analyzed to identify patterns and themes within the data using Reflexive Thematic Analysis as per Braun and Clark (RTA) (Braun & Clarke, 2022). The analysis involved six steps:

Familiarization with the data, Coding, Generating Initial Themes, reviewing and Developing Themes, Refining, Defining, and Naming Themes, and writing up. In the familiarization stage, interviews were repeatedly read, listened to, and transcripts were reviewed multiple times. During this stage, the initial coding process started as per qualitative tradition. In the Coding stage, the data were coded. As RTA is a reflexive process, codes were constantly refined, deleted, renamed, and grouped into subthemes. These codes were then grouped into broader themes that capture meaningful patterns. Next, the themes were reviewed to ensure coherence and alignment with the data. The final step involves writing up the findings and synthesizing the themes into a coherent, detailed narrative. A thematic map (see Figure 1 below) was constructed to visualize the underlying patterns within the data.

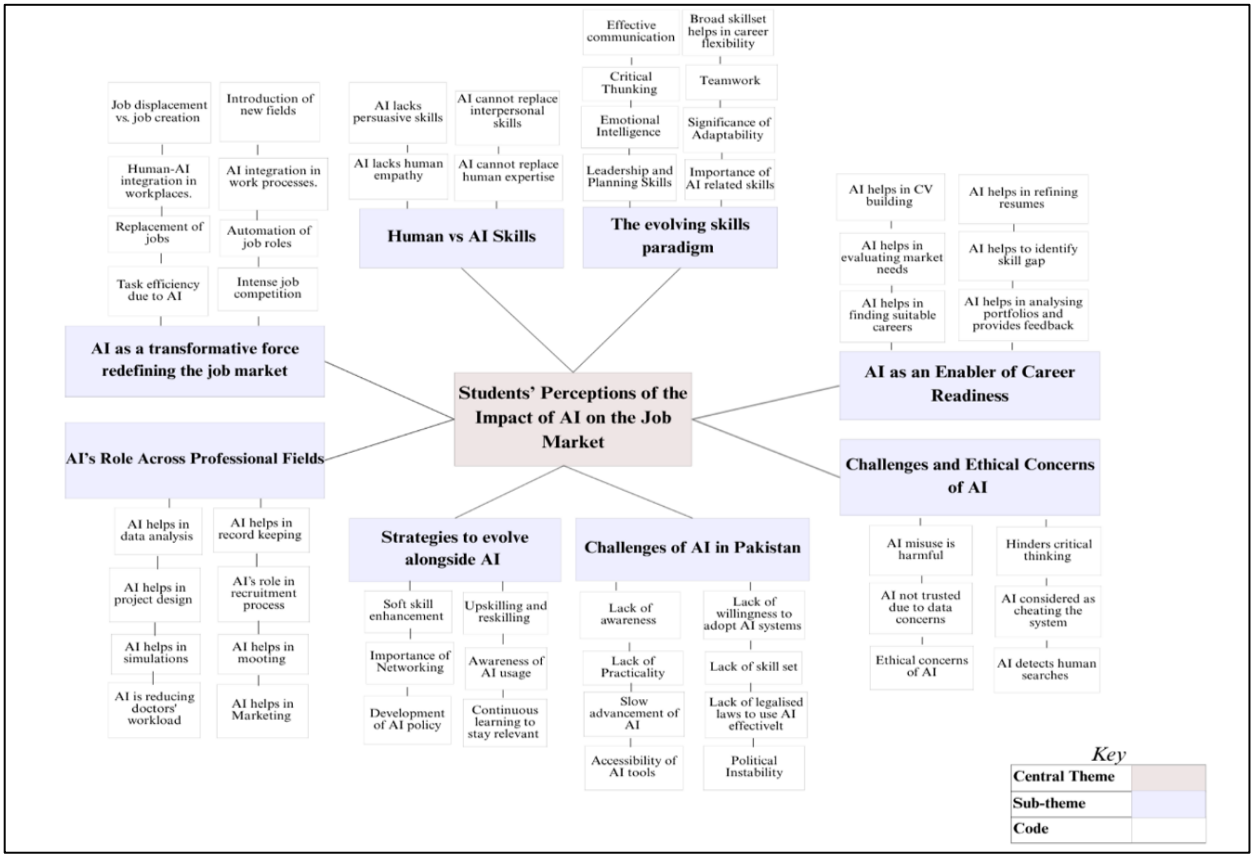


Figure 1 Thematic Map

Findings of the study

Finding #1: AI is the catalyst for emerging careers due to the transformative impact of AI on the labour market and the future of work. Instead of viewing AI purely as a threat to job security, students generally recognized its dual nature: as a replacement for outdated roles and repetitive tasks. In terms of automation of tasks, students stated that "Task efficiency due to AI, it is very important that you use AI, because ultimately, if there is something, there is a presentation that you have to make, and you take, like, 1 day to complete it. And there is someone else who knows a certain AI tool they just they just give an AI prompt to it and it generates that presentation in like 10 minutes" (Interview#4, lines 161-63). Moreover, in terms of replacement of jobs due to AI as stated "so it will obviously replace jobs in a lot of ways but it will replace some jobs like some jobs that are repetitive or routine like data entry or processing, or is it that maybe will be much more efficient more cheaper without like, yeah, not getting fatigued obviously you would choose that, and now customer services too where AI chatbots are doing more customer services too" (Interview#19, lines 277-280).

Where AI has seemed to be a threat to many jobs and careers, it is also creating numerous new opportunities for students to enter, which in turn provides them with a variety of different career paths options, as stated, "a lot of new types of jobs will be created. For example, if you look back 5 to 6 years, or even 10 years ago, you wouldn't really find roles like AI engineers or machine learning engineers. But now, those roles have become very common. And even within those fields, people are now hiring for very specific and niche areas; Take prompt engineering, for instance. What is prompt engineering? It's basically about designing and structuring inputs for a chatbot how you frame a prompt so that the AI gives you the desired response. In other words, it's a specialized skill where you train the AI through carefully crafted prompts to produce effective and accurate outputs" (Pilot Interview, lines 238-244). Furthermore, one of the most prevalent things noticed due to the evolution of AI is the intense job market competition, as stated "So if I talk about the job market and tech now the competition is really high like you cannot even think about it, like if I have one skill and that is at a beginner level or if I am mediocre, I can't assume that I will find a good job" (Interview#1, lines 46-47).

Finding 2#: While AI excels in efficiency, data analysis, and repetitive task automation, it falls short in areas requiring emotional depth, social understanding, and moral judgment. Therefore, human-AI collaboration, rather than replacement, is the most effective approach for the future of work and learning. For instance, a student stated that, "Because AI is the kind of technology that doesn't have empathy — it cannot actually feel emotions" (Interview#6, lines 44-47). Another student stated that "So when emotions are absent, it's obvious that humans are the ones who will take action. For example, if we look at another case, AI cannot identify symptoms by itself, and when it can't identify symptoms, you'll naturally go to a doctor. However, AI can still assist if you tell it your symptoms; it can suggest possible medicines or treatments. Similarly, from an academic or professional perspective, AI can never convince someone in person for example, it cannot go and persuade a client or build a business partnership. Such abilities require critical human skills like communication, persuasion, and reasoning. AI can generate ideas, but critical thinking, analyzing, interpreting, and making judgments ultimately comes from the human mind" (Interview# 64-70). This indicates that upcoming educational and training initiatives should emphasize the integration of AI literacy with specialized domain knowledge. Learners must be equipped to leverage AI as a supportive resource instead of viewing it as a replacement for human decision-making.

Finding 3# AI adoption in the labour market requires soft skills and upskilling in technical skills. Students are aware of the evolving skill sets essential in a labor market shaped by AI. For instance, a student stated, "The skills that are required to work in the AI influenced industry can be divided into two parts, first is the technical skills that a person requires and the other one is the soft skills, the technical skills I think a person working in this field has to be good in data analysis, machine learning, programming and you should be good at problem solving as well, other than that you should be adaptable, so that you can easily be accommodated in the newly introduced technologies. Often more in soft skills, one should be good at explaining the problem that he's facing" (Interview# 3, lines 34-39). Another student added, "your communication, the way you present yourself, leadership skills, planning skills, these are those skills which are innate and you develop them

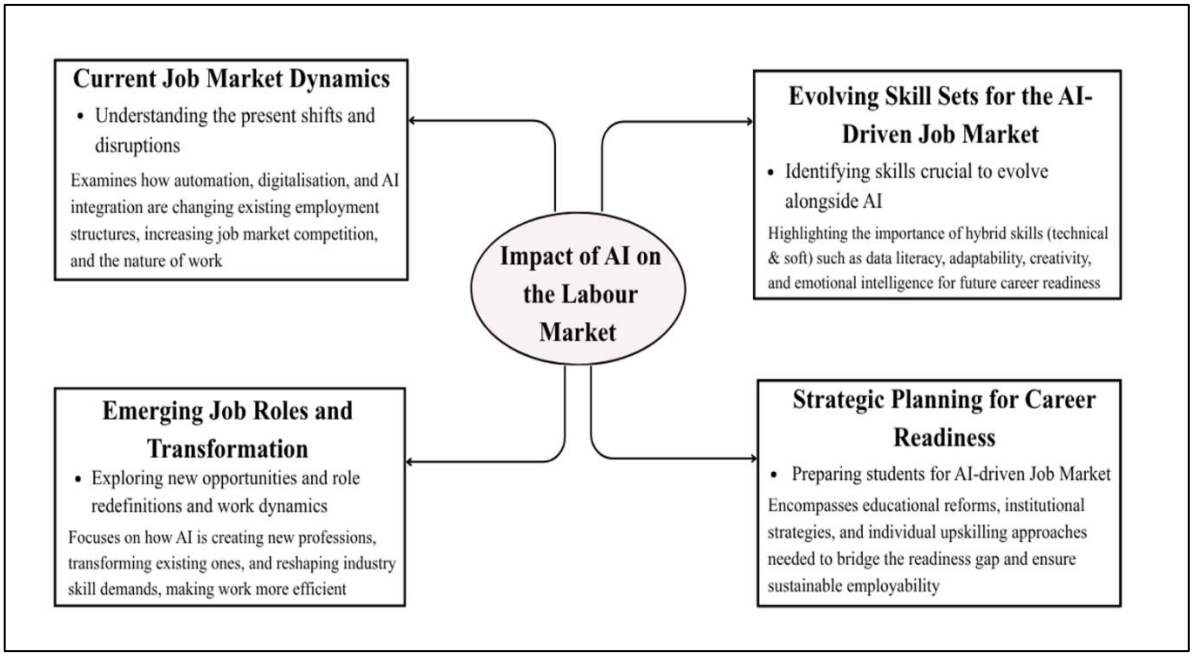
yourselves, so I think to work on these things is important along with your hard skills" (Interview# 1, lines 64-67)). Another student stated that "So emotional intelligence is a very skillset that humans can only possess and to understand your emotions and the emotions of others and to work around that is a very strong skillset" (Interview#13, lines 214-216). The findings also center on how students compare their human capabilities with the abilities of AI. While they acknowledge AI's efficiency and speed in performing academic or technical tasks, they also emphasize the value of human skills that AI cannot replicate, especially in areas involving emotional intelligence, communication, and creativity. Skills like emotional intelligence, effective communication in diverse social settings, cultural understanding, and creative problemsolving are seen as distinctly human qualities that AI cannot replicate. The findings also center on how students compare their human capabilities with the abilities of AI. While they acknowledge AI's efficiency and speed in performing academic or technical tasks, they also emphasize the value of human skills that AI cannot replicate, especially in areas involving emotional intelligence, communication, and creativity. Skills like emotional intelligence, effective communication in diverse social settings, cultural understanding, and creative problem-solving are seen as distinctly human qualities that AI cannot replicate.

Finding 4 #: AI usage requires caution due to its limitations and potential risks, which primarily include ethics, misinformation, data privacy, and hindering critical thinking as stated by a student "You're basically like skipping your critical thinking part and just making AI to the work and again like it shows that this is something that AI did" (Pilot Interview, lines 427-429). Another student stated, "Okay, if we talk about AI ethics, I feel that this shouldn't be brought into academics. A person has their own capabilities, their own critical thinking and these ideas and thoughts they're ours. So, if the idea is yours and the critical thinking is yours, then you should have the ability to express that idea yourself, rather than relying on any tool... That's why I believe it shouldn't be introduced in academics, because it's leading students toward distractions, the mind, and the brain are being affected" (Interview# 8, lines 191-198). Another student stated that, "So I think another important skill, or rather, an important area of knowledge, that everyone should have been the understanding of AI ethics. Before stepping into any job, especially if your work is related to AI, you should at least have a basic understanding of what's right and wrong when it comes to using AI. For example, you should know that if you use AI in a certain way, it's considered ethical, and if you use it another way, it could be unethical. Take deepfake videos, for instance, these days, AI is being used to create fake or misleading videos, which is clearly unethical. Similarly, when it comes to issues like plagiarism or cheating using AI tools, those are also ethical concerns that need to be addressed. So, having this awareness is crucial in today's AIdriven world" (Pilot interview, lines 415-428). The findings imply that for policymakers, this requires the development of clear, consistent, and contextually relevant guidelines that govern the ethical use of AI in academic settings. Moreover, public and private educational bodies should collaborate to ensure equitable access to AI tools while preventing misuse.

Findings 5#: AI integration in Pakistan requires addressing multiple contextual challenges, primarily the absence of a coherent government policy on AI in education and workforce development. Many participants also criticized the absence of a coherent government policy on AI in education and workforce development. These barriers suggest that without state-led intervention, AI integration will not exist. The Government must therefore prioritize AI literacy for students and work on improving infrastructure, teacher training, and public awareness initiatives. Additionally, formulating an AI policy is significant to align AI strategies with Pakistan's broader development goals. Addressing these challenges requires strategic investment, policy reform, and inclusive digital literacy initiatives. For instance, a student stated regarding the lack of awareness of AI, "Students here have absolutely no idea what they're doing. They only know that when they get a question or a problem, they have to pop it into AI, take whatever solution or answer AI gives them, pop it into the assignment section, and submit it. That's it. That's the only thing I can say about Pakistan" (Interview#15, lines 170-73). Another student, while describing the lack of practicality among students, stated that, "In Pakistan, there isn't that much awareness about AI. Even though we are studying AI, we still don't know enough about what's actually happening these days. For example, if you ask a student to create a chatbot, they don't really understand how to do it" (Interview#17, lines 78-81). The findings also suggest some actionable strategies for the Government to invest in resources and funds to inculcate AI. In addition, universities should form partnerships with tech industries, which can help to provide exposure to real-life AI applications. A

student stated that "Someone recently said to me that when you graduate, especially in the current era, they used the term 'warp speed', they said you'll have to move at that pace, because AI is advancing so rapidly that you'll have to keep up with it at the same speed. If you don't, then after some time, it will take over you. And where a company used to need 100 developers, soon they'll only need 2 developers who can do the work that 10 people used to do" (Interview# 5, lines 179-84).

Figure 2 Framework for Understanding AI's Transformative Role in the Labour Market



The Framework for Understanding AI's Transformative Role in the Labour Market provides an integrative understanding of how artificial intelligence (AI) is reshaping the employment landscape and redefining what it means to be career-ready in an AI-driven job market. Drawing on Savickas' Career Construction Theory and the Technology Acceptance Model (TAM), the framework captures the dynamic relationship between technological advancement, labour market evolution, and the competencies required for future employability. The first dimension, Current Labour Market Dynamics, examines how AI, automation, and digitalisation are restructuring work patterns, modifying job demands. These changes necessitate career adaptability, a core concept in Savickas' theory, as individuals must continuously reconstruct their career paths in response to technological shifts.

The second dimension, Emerging Job Roles and Transformation, highlights how AI not only disrupts existing occupations but also generates new hybrid roles that merge human creativity, analytical reasoning, and technological proficiency. Acceptance and effective utilisation of these technologies, as proposed in TAM, depend on individuals' perceptions of AI's usefulness and ease of integration within professional settings. The third dimension, Evolving Skill Sets for the AI-Driven Economy, underscores the growing importance of combining technical knowledge, such as data analytics and computational literacy, with distinctly human abilities, including critical thinking, creativity, adaptability, and emotional intelligence. Finally, the Strategic Planning for Career Readiness dimension emphasizes the deliberate actions needed by policymakers, educators, and individuals to prepare for AI's ongoing influence. This includes reforming curricula, promoting digital inclusion, designing upskilling programs, and fostering lifelong learning mindsets that support positive technology adoption. Together, these four dimensions reflect a continuous, adaptive cycle where AI drives market transformation, redefines career identities, and necessitates both psychological readiness and technological acceptance to ensure sustainable employability in an AI-enabled future.

DISCUSSION

In an era where Artificial Intelligence (AI) is reshaping the nature of work, understanding how students prepare for future careers requires both psychological and technological perspectives. Savickas' Career

Construction Theory (2005) explains how individuals adapt to change through career adaptability, which includes concern, control, curiosity, and confidence, key traits for navigating uncertainty and continuous reskilling in an AI-driven world. However, adaptability alone cannot explain how students engage with technology. The Technology Acceptance Model (1989) complements this by examining individuals' willingness to adopt digital tools through Perceived Usefulness (PU) and Perceived Ease of Use (PEOU). These beliefs shape attitudes toward AI-based platforms that support their career development. Together, CCT and TAM provide a comprehensive lens to understand how adaptability and technology acceptance influence students' readiness for careers in an AI-transformed job market.

The rapid integration of Artificial Intelligence (AI) into the modern workforce is fundamentally transforming the structure of the global labour market. Once primarily associated with automation and productivity enhancement, AI now plays a pivotal role in areas such as decision-making, recruitment, talent development, and workplace operations. Its influence extends beyond routine tasks, reshaping the competencies required to thrive in an increasingly technology-driven environment (Acemoglu & Restrepo, 2019; Brynjolfsson & McAfee, 2017; Johanna et al., 2024; Zouheir, 2025). As intelligent systems advance, industries across various sectors are experiencing profound changes, introducing new career opportunities while rendering some traditional roles obsolete (Wong, 2024). In Pakistan, where AI integration in education is still in its early stages and disparities in digital access persist, this dual focus is crucial. For instance, the HEC National AI Policy draft (2023) emphasizes the importance of integrating AI into higher education curricula, raising awareness, and also focusing on upskilling and reskilling, but without focusing on students' career readiness and equipping them with the knowledge, attitude, and skills regarding AI, such policies may fall short. Most importantly, one of the drawbacks is that this policy has yet to be implemented, which itself raises concerns, as students are not being prepared for the world of work. As AI adoption accelerates globally, there is a significant increase in both demand for AI literacy and appreciation of human-centric skills. Professionals and organizations are now realizing that while AI can enhance productivity, it cannot fully replace human judgment, empathy, and ethical decision-making (Akinnagbe, 2024).

Furthermore, a study underscores how students viewed AI as not only an assistant in task completion but also as a facilitator of deeper, career-relevant insights. One major point that emerged was the potential of AI to deliver personalized academic and career advising where data-driven technologies are employed to match students' current skillsets with evolving labour market demands (Yang & Chang, 2022). In addition, it also highlights that AI-based platforms can analyze students' academic profiles, compare them with industry requirements, and offer tailored guidance for future educational or professional pathways (Heinisch et al., 2019; Mason et al., 2023; Vo et al., 2022). These tools not only enhance student self-awareness regarding their competencies but also contribute to more informed decision-making around academic and vocational planning (Bankins et al., 2024).

In terms of the required skills in the age of AI, a Research study states that 70% anticipate recruiting talent with new skill sets, 40% expect to reduce headcount as certain skills become outdated, and half of the surveyed employers aim to transition existing employees from declining roles into those experiencing growth (World Economic Forum, 2025). Furthermore, despite acknowledging AI's potential benefits, several participants noted that while AI has created new job roles, it has already begun to phase out certain manual roles that were once the domain of human workers such as such as data entry jobs, customer service, and, as discussed before, repetitive tasks. This aligns with the global trends highlighted by the International Economic Development Council, which notes that while AI can create new fields such as prompt engineering, AI ethics, data analytics and machine learning, it also contributes to job displacement and skill polarization (IEDC, 2025; Soulami et al., 2024). As Artificial Intelligence (AI) continues to advance within labour market dynamics, it is reshaping the skill requirements necessary for employability. Participants in the study highlighted competencies, which include communication, emotional intelligence, decision-making, problem-solving, and critical thinking, that remain indispensable, as they represent areas where human judgment and empathy cannot be replicated by machines (Zirar et al., 2023). These findings align with recent global labour market analyses, including reports from the World Bank Group (World Bank, 2025), which emphasize that although AI can automate specific functions, the demand for distinctly human capabilities is simultaneously increasing.

Participants strongly believed that although AI excels at automating technical and repetitive tasks, it lacks human qualities vital for leadership, teamwork, communication and emotional intelligence. This perspective reflects an understanding that success in the future workplace will depend on collaboration between humans and machines, rather than a rivalry. As digital tools and AI platforms continue to evolve rapidly, students expressed a growing awareness of the need for adaptability. They viewed flexibility, willingness to learn, and openness to new tools as essential survival skills in an ever-changing job market. This aligns with global findings from the World Economic Forum, which stresses the importance of a balanced skillset combining technical proficiency and interpersonal abilities. Among the most critical competencies are critical thinking and creativity, which empower learners to analyze challenges from multiple perspectives and develop innovative solutions (Bernal, 2025). Equally important are collaboration and communication skills, essential for effective teamwork and the articulation of ideas, as well as ethical and global awareness, which help learners engage thoughtfully with global challenges and advocate for sustainable and equitable outcomes (World Bank, 2025). Although AI demonstrates potential to support learning, participants emphasized that it cannot substitute for the mentorship, empathy, and ethical guidance provided by educators (World Economic Forum, 2023). They also expressed caution regarding excessive dependence on AI, noting that over-reliance may weaken learners' ability to think critically and solve problems independently. This concern aligns with showcasing potentially reducing their cognitive engagement (Borenstein & Howard, 2020; Kumar et al., 2025).

Limitations and Recommendations

This study represents an early effort to explore undergraduate students' perceptions of the impact of AI in the job market. There were two limitations of the study. Firstly, the research was geographically restricted; hence, the experiences of students in underdeveloped regions with weaker digital infrastructure were not captured. Second, the scope was limited to students, excluding the perspectives of employers, employees, policymakers, and industry stakeholders. These factors limit the generalizability of the findings. To address these gaps, future research should adopt a mixed-methods approach that includes multiple stakeholders' perspectives across diverse regions of Pakistan.

CONCLUSION

This study highlights that AI is not merely automating tasks but rather fundamentally transforming the concept of career readiness. Students recognize AI as both an opportunity and a challenge, one that demands adaptability, digital fluency, and ethical awareness. While AI enhances efficiency and access to knowledge, it cannot replace uniquely human attributes such as empathy, creativity, and complex decision-making. The findings highlight an urgent need for education systems to evolve, aligning learning outcomes with the dynamic demands of AI-driven workplaces. Ultimately, preparing future graduates requires a balanced approach that combines technological innovation with a focus on human-centered competencies. By fostering critical thinking, ethical responsibility, and continuous learning, higher education can equip students to navigate the complexities of the modern labour market and thrive in an era where human expertise and AI coexist.

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