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EXAMINING THE EMPLOYABILITY OF UNIVERSITY GRADUATES IN PAKISTAN: A STUDY OF SKILLS AND COMPETENCIES

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ABSTRACT

This study investigated the employability of university graduates in Pakistan, examining the alignment between academic preparation and industry requirements. The research adopted a mixed-methods approach, collecting data from 500 graduates across ten major universities and 50 employers from various sectors. Findings revealed significant gaps between academic curricula and industry needs, with technical skills, communication abilities, and problem-solving capabilities emerging as critical factors influencing employability. Analysis indicated that 63% of graduates experienced challenges in securing relevant employment within six months of graduation, with notable variations across disciplines. Engineering and business graduates demonstrated higher employability rates compared to humanities and social sciences. Employer feedback emphasized the importance of practical experience, digital literacy, and soft skills, with 72% expressing dissatisfaction with graduates' work-readiness. The study highlights the need for curriculum reforms, industry-academia partnerships, and targeted skill development programs to enhance graduate employability in Pakistan's evolving job market. Results provide valuable insights for educational institutions, policymakers, and students in addressing the skills gap and improving employment outcomes in the Pakistani context.

Keywords: *Graduate employability, Skills gap, Higher education, Pakistan, Industry requirements, Curriculum development.*

INTRODUCTION

The complex relationship between higher education and graduate employability has emerged as a critical concern for educational institutions, policymakers, and students worldwide. In Pakistan, this relationship has become increasingly significant due to rising graduate unemployment rates amid economic uncertainty and technological advancement (Mahmood & Ali, 2023). The past decade has witnessed a substantial expansion in Pakistan's higher education sector, with the number of universities increasing from 132 in 2010 to 224 in 2024, resulting in a dramatic rise in graduate numbers (Higher Education Commission of Pakistan, 2024). However, this quantitative expansion has not necessarily translated into improved employment outcomes, as evidenced by the widening gap between graduate skills and

employer expectations (Khan et al., 2023). According to recent labor market statistics, approximately 31% of university graduates in Pakistan remain unemployed or underemployed six months after graduation, highlighting the severity of the employability crisis (Pakistan Bureau of Statistics, 2023).

The concept of employability extends beyond mere employment acquisition to encompass the capacity to function successfully within the workplace and adapt to changing career demands (Tomlinson & Holmes, 2022). In the Pakistani context, employability challenges are particularly acute due to structural economic limitations, regional disparities in development, and the persistent disconnect between academic curricula and industry requirements (Ahmad & Rashid, 2021). While technical disciplines such as engineering and information technology demonstrate relatively better employment outcomes, graduates from humanities and social sciences face significantly greater challenges in securing relevant employment, suggesting disciplinary variations in employability that warrant further investigation (Zaidi & Farooq, 2022). These disparities not only affect individual career trajectories but also have broader implications for national economic development and social cohesion (Malik & Ahmed, 2024).

The skills gap between graduate capabilities and employer requirements represents a fundamental challenge to graduate employability in Pakistan. Recent studies have identified critical thinking, practical application of knowledge, communication abilities, and digital literacy as areas where Pakistani graduates consistently underperform relative to employer expectations (Siddiqui et al., 2022). This skills deficiency is particularly concerning given the rapid transformation of the employment landscape due to technological advancement and globalization, which demands increasingly sophisticated competencies from university graduates (Rehman & Khan, 2021). As noted by Hussain and Abbas (2023), the fourth industrial revolution is reshaping job requirements across sectors, emphasizing adaptability, technological proficiency, and creative problem-solving abilities that are often underdeveloped in traditional university curricula. The persistent emphasis on theoretical knowledge over practical application in Pakistan's higher education system exacerbates this skills mismatch, limiting graduates' ability to navigate the contemporary job market effectively (Mukhtar & Shahzad, 2022).

Regional disparities significantly impact graduate employability in Pakistan, with pronounced variations in employment outcomes across provinces. Graduates from less developed regions such as Balochistan and Khyber Pakhtunkhwa face substantially higher unemployment rates compared to their counterparts from Punjab and Sindh, reflecting broader patterns of economic inequality (Baloch & Ahmed, 2023). These geographic disparities are compounded by uneven distribution of industry presence, infrastructure development, and educational quality across regions (Shah & Rahman, 2024). Furthermore, regional variations interact with socioeconomic factors, with graduates from rural backgrounds and lower-income families facing additional barriers to employment regardless of their academic qualifications (Hashmi & Yousafzai, 2022). Understanding these spatial dimensions of employability is crucial for developing targeted interventions that address the specific challenges faced by graduates in different Pakistani contexts.

The role of higher education institutions in enhancing graduate employability has received increasing attention in recent scholarship. Universities are increasingly expected to not only impart discipline-specific knowledge but also develop transferable skills, workplace competencies, and career management abilities that facilitate the transition from education to employment (Khan & Zafar, 2022). However, research suggests that Pakistani universities often struggle to fulfill this expanded role, with many institutions maintaining outdated curricula, employing traditional pedagogical approaches, and maintaining limited engagement with industry partners (Hussain et al., 2024). As observed by Rasheed and Ahmad (2023), the governance structures and faculty incentive systems in Pakistani universities frequently prioritize academic research and theoretical instruction over teaching innovation and industry collaboration, limiting institutional capacity to address employability challenges effectively. This institutional inertia persists despite growing recognition of the need for curriculum reform and pedagogical innovation to

better prepare graduates for contemporary workplace demands (Anwar & Malik, 2021).

Employer perspectives on graduate employability provide crucial insights into the demand side of the education-employment relationship. Recent surveys of Pakistani employers across sectors indicate widespread dissatisfaction with graduates' work-readiness, with particularly low ratings for practical skills, problem-solving abilities, and professional attitudes (Ali & Qureshi, 2023). Notably, employers consistently prioritize transferable skills and workplace competencies over specialized knowledge when making hiring decisions, suggesting a potential misalignment in educational emphasis (Shah et al., 2022). According to Bhatti and Ahmed (2023), employers increasingly value adaptability, teamwork, communication skills, and technological literacy as essential attributes for workplace success, particularly in the context of rapidly evolving industry requirements and organizational structures. The growing preference for graduates with internship experience, professional certifications, and co-curricular achievements further highlights the importance of practical learning and skill development beyond formal curricula (Khan & Mahmood, 2021).

The broader socioeconomic context significantly shapes graduate employability in Pakistan. Macroeconomic factors such as economic growth rates, industry structure, labor market regulations, and investment patterns influence the availability and nature of graduate employment opportunities (Rehman et al., 2023). The predominance of informal economic activity and small-scale enterprises in Pakistan's economy limits formal sector employment options for graduates, while the relatively small manufacturing and knowledge-intensive service sectors constrain opportunities for specialized technical roles (Sultan & Khaliq, 2022). Additionally, sociocultural factors such as gender norms, social networks, and family expectations influence career pathways and employment decisions, with female graduates facing particular challenges in accessing and maintaining professional employment (Fatima & Hussain, 2024). As argued by Malik and Shah (2023), enhancing graduate employability in Pakistan requires addressing these structural constraints alongside educational reforms, necessitating coordinated policy interventions across education, labor market, and economic development domains.

International comparisons provide valuable context for understanding Pakistan's graduate employability challenges. Recent cross-national studies position Pakistan below regional peers such as India, Sri Lanka, and Malaysia in terms of graduate employment outcomes and skills development (Asian Development Bank, 2023). This comparative disadvantage reflects both educational quality issues and broader economic limitations, including lower investment in human capital development and less favorable business environments for knowledge-intensive industries (Ahmed & Rashid, 2022). However, international experiences also offer potential models for addressing employability challenges, with successful interventions from countries like Malaysia, Turkey, and Indonesia demonstrating the value of industry-academia partnerships, entrepreneurship education, and targeted skill development programs (Khan et al., 2021). As suggested by Rehman and Malik (2024), Pakistan can benefit from adapting these international approaches to its specific socioeconomic context while addressing the fundamental structural constraints on graduate employment.

The policy landscape surrounding graduate employability in Pakistan has evolved significantly in recent years, with increasing recognition of the need for systemic interventions. The National Education Policy 2021-2030 explicitly acknowledges employability as a central objective of higher education and proposes various measures to strengthen the education-employment nexus (Ministry of Federal Education, 2021). Similarly, the Higher Education Commission's Strategic Plan 2023-2027 emphasizes curriculum modernization, faculty development, and industry engagement as key priorities for enhancing graduate outcomes (HEC Pakistan, 2023). Provincial governments have also initiated various youth employment schemes, skill development programs, and entrepreneurship support initiatives targeted at university graduates (Sindh Government, 2022; Punjab Youth Affairs Department, 2024). However, as noted by Malik and Khan (2022), these policy interventions often suffer from implementation challenges, coordination difficulties, and resource constraints that limit

their effectiveness in practice. Addressing Pakistan's graduate employability crisis thus requires not only well-designed policies but also effective implementation mechanisms, sustainable funding models, and collaborative governance arrangements that engage multiple stakeholders in solution development.

Research Objectives

1. To assess the current employability status of university graduates across various academic disciplines in Pakistan.
2. To identify the key skills and competencies valued by employers in Pakistan's job market and evaluate the extent to which graduates possess these attributes.
3. To determine the factors contributing to the skills gap between university education and industry requirements in Pakistan.

Research Questions

1. What is the current employment status of university graduates across different academic disciplines in Pakistan, and what challenges do they face in securing suitable employment?
2. Which skills and competencies are most valued by employers in Pakistan, and to what extent do recent graduates demonstrate proficiency in these areas?
3. What factors contribute to the disparity between skills acquired during university education and those required in Pakistan's professional environment?

Significance of the Study

This research addresses a critical concern in Pakistan's educational and economic landscape by examining the employability challenges faced by university graduates. With rising graduate unemployment rates and frequent employer complaints about skill deficiencies, understanding this disconnect has become increasingly important. The study's findings offer evidence-based insights to guide educational institutions in redesigning curricula that better align with market demands. For policymakers, the results provide a foundation for developing targeted interventions to bridge the skills gap and enhance workforce development. Additionally, prospective students can utilize this information to make informed decisions about educational pathways and supplementary skill development opportunities. By identifying specific competency deficiencies and regional variations, this research contributes to the broader discourse on education quality and economic development in Pakistan, potentially informing strategies to improve graduate outcomes and industry competitiveness.

Literature Review

The concept of graduate employability has evolved significantly over recent decades, transitioning from a narrow focus on job acquisition to a more comprehensive understanding that encompasses career sustainability, professional development, and adaptability to changing workplace demands. Contemporary scholarship increasingly conceptualizes employability as a multidimensional construct that integrates knowledge, skills, attributes, and experiences that enhance graduates' capacity to secure and maintain fulfilling employment throughout their careers (Holmes, 2023). Tomlinson and Anderson (2021) propose a capitals framework for understanding employability, suggesting that graduates draw upon various forms of capital—including human, social, cultural, psychological, and identity capital—when navigating labor markets and workplace environments. This multidimensional conceptualization has gained traction in Pakistani scholarship, with researchers such as Ahmad and Khan (2022) applying capital frameworks to analyze the employability challenges faced by graduates from different socioeconomic backgrounds and institutional contexts. The evolving conceptualization emphasizes that employability development requires sustained attention throughout the educational journey rather than as an afterthought near graduation (Mahmood et al., 2023).

The skills gap between graduate capabilities and employer requirements represents a central theme in employability literature globally and in Pakistan specifically. Recent empirical studies consistently identify significant discrepancies between the skills prioritized in university curricula and those valued in contemporary workplaces (World Economic Forum, 2023). In the Pakistani context, Hussain and Sheikh (2022) conducted a comprehensive survey of 200 employers across sectors, identifying critical

thinking, problem-solving, communication, and digital literacy as areas where graduates consistently underperform relative to employer expectations. These findings align with Ali and Rehman's (2024) mixed-methods investigation of employability challenges in Pakistan's major urban centers, which highlighted employers' dissatisfaction with graduates' practical skills and workplace readiness despite adequate theoretical knowledge. The persistence of these skills gaps suggests fundamental misalignments in curriculum design, pedagogical approaches, and assessment methods within Pakistan's higher education institutions (Malik & Siddiqui, 2021). Furthermore, Zaidi et al. (2023) document that the skills gap varies significantly across disciplines, with particularly pronounced deficiencies in non-technical fields that have traditionally emphasized theoretical knowledge over practical application.

Disciplinary variations in employability outcomes have received increasing scholarly attention, with significant implications for educational policy and institutional practice. Comparative analyses consistently demonstrate that graduates from STEM (Science, Technology, Engineering, and Mathematics) and business-related disciplines experience better employment outcomes than their counterparts in humanities and social sciences, both globally and in Pakistan specifically (Siddiqui & Haider, 2023). Khan and Ahmed's (2022) longitudinal study of Pakistani graduates across six universities found that engineering and information technology graduates were twice as likely to secure relevant employment within six months of graduation compared to humanities graduates. These disciplinary disparities reflect both labor market demands and differences in curriculum design, with technical programs typically incorporating more practical components and industry engagement opportunities (Mahmood & Saleem, 2024). However, Shah and Rahman (2021) caution against a purely market-driven approach to higher education that prioritizes technical disciplines at the expense of humanities and social sciences, arguing for the intrinsic value of diverse academic traditions and their broader social contributions. The challenge for policymakers and institutions lies in enhancing employability across all disciplines while respecting their distinctive educational purposes and traditions (Hussain et al., 2023).

Pedagogical approaches play a crucial role in developing employability skills, with growing evidence supporting the effectiveness of experiential, problem-based, and work-integrated learning methodologies. Recent studies document positive outcomes from pedagogical innovations that bridge theory and practice through authentic learning experiences (Zaidi & Mahmood, 2023). In Pakistan, Ali and Shah (2022) evaluated the impact of project-based learning in undergraduate business education, finding significant improvements in students' critical thinking, teamwork, and problem-solving capabilities compared to traditional instructional methods. Similarly, Rehman et al. (2024) documented enhanced communication skills and professional confidence among engineering students participating in industry-linked capstone projects. Despite these positive findings, Ahmad and Khan (2021) observe that pedagogical innovation remains limited in many Pakistani universities due to faculty resistance, resource constraints, and institutional inertia. According to their nationwide survey of teaching practices, lecture-based instruction and summative examinations continue to dominate Pakistani higher education, limiting opportunities for active learning and authentic skill development. Addressing these pedagogical limitations requires comprehensive faculty development initiatives, revised incentive systems, and institutional cultures that value teaching innovation alongside research productivity (Hussain & Malik, 2023).

The role of work experience in enhancing graduate employability has been extensively documented in recent literature. Internships, cooperative education programs, and part-time employment provide students with valuable workplace exposure, practical skill development, and professional network expansion opportunities that significantly improve post-graduation employment prospects (Mahmood & Siddiqui, 2022). In Pakistan, Khan et al. (2024) conducted a propensity-score matched analysis of employment outcomes among graduates from 12 universities, finding that participation in structured internship programs increased the probability of relevant employment by 37% across disciplines. These benefits were particularly pronounced for students from less

prestigious institutions and disadvantaged backgrounds, suggesting that work experience may partially mitigate the effects of institutional reputation and social capital on employment outcomes (Ali & Bhatti, 2023). Despite these benefits, access to quality internships remains uneven in Pakistan, with geographic, socioeconomic, and gender-based disparities limiting opportunities for many students (Shah & Ahmed, 2022). As noted by Rahman and Malik (2023), internship opportunities are concentrated in major urban centers and often rely on personal connections, reinforcing existing patterns of advantage rather than broadening access to valuable work experience.

Digital transformation has dramatically reshaped employability requirements across sectors, creating both challenges and opportunities for Pakistani graduates. The accelerated digitalization triggered by the COVID-19 pandemic has heightened employer expectations regarding technological proficiency while creating new employment avenues in digital sectors (Hussain & Khan, 2023). Recent research by Ahmad and Shah (2022) documents the growing importance of digital skills across traditionally non-technical disciplines, with employers increasingly expecting baseline technological literacy regardless of academic specialization. Similarly, Khan et al. (2023) surveyed 150 Pakistani employers across sectors, finding that 78% consider digital literacy a critical hiring criterion, with particular emphasis on data analysis, digital communication, and software proficiency. However, Malik and Rahman (2024) highlight significant digital divides among Pakistani students based on socioeconomic background, institutional resources, and geographic location, with students from disadvantaged backgrounds and rural institutions experiencing limited access to technology and digital learning opportunities. These disparities in digital skill development threaten to exacerbate existing inequalities in graduate employability, particularly as labor markets increasingly reward technological proficiency (Siddiqui et al., 2024).

Entrepreneurship education and support have gained increasing attention as pathways to enhance graduate employability in contexts of limited formal employment opportunities. In Pakistan's challenging job market, entrepreneurship represents a viable alternative career pathway that leverages graduate knowledge and skills while contributing to economic development through innovation and job creation (Ali & Hussain, 2022). Khan and Malik's (2023) evaluation of entrepreneurship education programs across five Pakistani universities found significant positive impacts on students' entrepreneurial intentions, self-efficacy, and business planning capabilities. Similarly, Shah et al. (2022) documented higher rates of venture creation and business survival among graduates who participated in structured entrepreneurship support programs compared to those without such exposure. Despite these promising findings, Rehman and Ahmad (2024) highlight continuing limitations in Pakistan's entrepreneurship ecosystem, including restrictive regulatory environments, limited access to finance, and cultural attitudes that stigmatize business failure. Furthermore, entrepreneurship education remains peripheral in many Pakistani universities, particularly outside business schools, limiting exposure to entrepreneurial mindsets and skills across disciplines (Malik & Siddiqui, 2022). Strengthening entrepreneurship education and support systems could expand career pathways for Pakistani graduates while addressing youth unemployment challenges through self-employment and venture creation.

Social capital and networks significantly influence graduate employability, often serving as crucial mechanisms for accessing information, opportunities, and employment pathways. Recent research highlights the central role of relationships and connections in labor market navigation, particularly in contexts like Pakistan where formal recruitment processes may be less transparent or consistent (Ahmad & Zaidi, 2022). Hussain and Ali's (2023) mixed-methods investigation of graduate recruitment experiences in Karachi and Lahore found that over 60% of participants secured their first professional position through personal or family connections rather than formal application processes. These findings align with Shah and Rahman's (2021) observation that social networks function as both information channels and endorsement mechanisms in Pakistan's graduate labor market, potentially compensating for employers' uncertainty about graduate capabilities. However, reliance on social capital as an employment

mechanism raises significant equity concerns, as graduates from disadvantaged backgrounds typically possess more limited professional networks (Khan et al., 2022). This network disadvantage compounds other forms of marginalization, potentially reinforcing existing socioeconomic disparities through the employment process (Malik & Ahmed, 2023). Universities can partially address these inequities through alumni networks, mentoring programs, and career services that expand students' professional connections beyond their immediate social circles (Ali & Siddiqui, 2024).

Institutional reputation and prestige significantly influence graduate employability outcomes in Pakistan, creating a hierarchical labor market that privileges graduates from established universities. Recent research by Hussain and Malik (2022) demonstrates that graduates from prestigious public institutions and elite private universities enjoy substantially better employment prospects regardless of academic performance or skill development. Their analysis of employment data across 15 institutions found that graduates from top-tier universities were 2.8 times more likely to receive interview opportunities and 3.2 times more likely to receive job offers compared to equally qualified candidates from less prestigious institutions. Similar findings emerge from Ahmad and Ali's (2023) experimental study using fictitious job applications, which documented significant employer bias based on institutional affiliation independent of stated qualifications. These prestige effects operate through multiple mechanisms, including employers' quality assumptions, alumni networks, and recruitment practices that target specific institutions (Shah et al., 2024). The persistence of these institutional hierarchies challenges meritocratic ideals and raises questions about educational equity, as admission to prestigious institutions often correlates with socioeconomic advantage (Rehman & Khan, 2023). For graduates from less prestigious institutions, compensatory strategies such as professional certifications, internship experiences, and skill demonstrations become particularly important for labor market success (Malik & Siddiqui, 2021).

Gender dimensions of graduate employability deserve particular attention in the Pakistani context, where significant disparities persist despite increasing female participation in higher education. Recent statistics indicate that while women constitute approximately 48% of university students nationally, their labor force participation remains disproportionately low at 22% compared to 68% for men (Pakistan Bureau of Statistics, 2023). Qualitative research by Fatima and Hussain (2023) identifies multiple barriers to female graduate employment, including family responsibilities, mobility constraints, workplace harassment concerns, and discriminatory hiring practices. These challenges vary across regions and socioeconomic contexts, with greater restrictions typically experienced in conservative rural areas compared to urban centers (Khan et al., 2022). Longitudinal research by Malik and Shah (2024) found that female graduates take on average 7.3 months longer to secure first employment compared to male counterparts with equivalent qualifications, with particularly pronounced disparities in technical fields and senior positions. However, Ahmad and Rahman (2023) document the emergence of new employment pathways for female graduates through digital and remote work arrangements, which potentially circumvent traditional barriers related to mobility and gender segregation. Addressing gender disparities in graduate employability requires multifaceted interventions targeting both supply-side factors (such as gender-sensitive career guidance) and demand-side constraints (such as workplace policies and employer attitudes).

The impact of economic structures and labor market conditions on graduate employability cannot be overlooked in the Pakistani context. Recent macroeconomic analyses highlight several structural constraints on graduate employment, including limited industrial diversification, predominance of low-skill sectors, and significant informal economic activity (Asian Development Bank, 2023). Khan and Ahmad (2022) argue that Pakistan's economic structure creates a fundamental mismatch between graduate production and absorption capacity, with the education system producing more graduates than the formal economy can employ in knowledge-intensive roles. This structural misalignment is particularly acute in non-urban regions with limited presence of large-scale formal enterprises, contributing to geographical disparities in employment outcomes (Rehman et al., 2023). Labor market analyses by Shah and Ali (2024)

further highlight the impact of economic volatility on graduate employment, with economic downturns disproportionately affecting new labor market entrants through hiring freezes and increased competition for available positions. Similarly, Malik and Hussain (2021) document how Pakistan's challenging business environment—characterized by regulatory complexity, energy shortages, and political instability—limits private sector growth and job creation across sectors. These structural economic factors suggest that enhancing graduate employability requires not only educational interventions but also broader economic reforms that stimulate job creation in knowledge-intensive sectors.

Policy interventions to enhance graduate employability have proliferated across national and provincial levels in Pakistan, though their effectiveness remains variable. The Higher Education Commission's initiatives include the Prime Minister's Youth Development Program (2023-2026), which aims to develop market-relevant skills through targeted training and internship opportunities for 100,000 graduates annually (HEC Pakistan, 2023). Provincial programs such as Punjab's Skills for Jobs program and Sindh's Graduate Employment Initiative have similarly focused on bridging education-employment gaps through skill development and job placement services (Sindh Government, 2023; Punjab Skills Development Authority, 2024). Khan and Shah's (2023) evaluation of these initiatives suggest mixed outcomes, with positive results in technical skill development but limited impact on overall employment rates and job quality. Critical analyses by Rehman and Malik (2022) identify several limitations in current policy approaches, including inadequate employer engagement, insufficient attention to regional economic contexts, and limited coordination across educational and economic policy domains. Furthermore, Ahmad et al. (2023) highlight implementation challenges related to resource constraints, institutional capacity limitations, and governance issues that frequently undermine policy effectiveness. Developing more effective interventions requires stronger evidence bases, greater stakeholder involvement, and more integrated approaches that address both educational and structural economic factors affecting graduate employability (Ali & Hussain, 2023).

International comparative research provides valuable perspectives on Pakistan's graduate employability challenges. Recent global employability rankings consistently place Pakistani graduates below regional competitors such as India, Malaysia, and Vietnam in terms of employer satisfaction and workplace readiness (QS Graduate Employability Rankings, 2023). Comparative analysis by Khan et al. (2024) attributes this performance gap to multiple factors, including curriculum relevance, pedagogical approaches, industry engagement practices, and economic structures. However, international experiences also offer potential models for addressing employability challenges. Hussain and Ahmad (2022) highlight successful interventions from countries with similar developmental contexts, including Malaysia's industry-academia collaboration frameworks, Turkey's technology incubation programs, and Indonesia's regional development initiatives. Applied appropriately to the Pakistani context, these international models could inform more effective approaches to enhancing graduate outcomes across disciplines and regions (Shah & Rahman, 2023). As emphasized by Ali and Malik (2024), addressing Pakistan's graduate employability challenges requires both global awareness and local contextualization, adapting international best practices to specific socioeconomic conditions while developing indigenous models that respond to unique national and regional circumstances.

Technological disruption and the changing nature of work present both challenges and opportunities for graduate employability in Pakistan. The accelerating automation of routine cognitive and manual tasks is reshaping skill requirements across sectors, with growing emphasis on uniquely human capabilities such as complex problem-solving, creativity, and interpersonal skills (World Economic Forum, 2023). Recent research by Ahmad and Khan (2023) projects that approximately 27% of tasks currently performed by Pakistani graduates could be automated within the next decade, with particularly high automation potential in accounting, administrative, and entry-level technical roles. These technological trends necessitate greater emphasis on adaptability,

lifelong learning, and non-routine cognitive skills in university education (Hussain et al., 2022). Simultaneously, digital transformation is creating new employment pathways through remote work arrangements, digital entrepreneurship, and platform-based freelancing that potentially expand opportunities for Pakistani graduates in global labor markets (Malik & Zaidi, 2024). Khan and Shah's (2022) survey of digital freelancing among Pakistani graduates found that those with strong technical and communication skills could access international clients and premium rates, often earning significantly more than in local employment. These emerging digital opportunities suggest potential pathways for addressing graduate unemployment, particularly if supported by targeted education in digital skills, entrepreneurship, and global work navigation (Rehman & Siddiqui, 2023).

Research Methodology

This study employed a mixed-methods approach to examine the employability of university graduates in Pakistan. A stratified random sampling technique was used to select 500 graduates from ten major universities across the four provinces, ensuring representation across different academic disciplines. Data collection occurred between January and April 2023 through structured questionnaires administered to graduates who completed their degrees within the past three years. The questionnaire assessed graduates' perceptions of their acquired skills, employment status, and challenges faced in the job market. Additionally, semi-structured interviews were conducted with 50 employers from various industries to gather insights on skill requirements and satisfaction with recent graduates. The employer sample included representatives from multinational corporations, local businesses, and public sector organizations. The quantitative data was analyzed using SPSS software to identify patterns and correlations between academic disciplines, skill sets, and employment outcomes. Qualitative data from employer interviews underwent thematic analysis to identify recurring perspectives on graduate competencies. The study incorporated analytical frameworks from human capital theory and employability models, contextualizing findings within Pakistan's unique socioeconomic environment and labor market dynamics. Ethical considerations included obtaining informed consent, maintaining confidentiality, and securing approval from the National Research Ethics Committee of Pakistan.

Data Analysis and Results

Data analysis and results present the findings from both quantitative and qualitative data collected during the study. The analysis examines graduate employment outcomes, skills assessment, employer perspectives, and the relationship between academic preparation and job market requirements.

Graduate Profile and Employment Status

The study sample comprised 500 graduates from ten major universities across Pakistan's four provinces. Table 1 presents the demographic profile of the respondents.

Table 1: Demographic Profile of Graduate Respondents

Demographic Factors	Frequency	Percentage
Gender		
Male	292	58.4%
Female	208	41.6%
Age Group		
21-23 years	187	37.4%
24-26 years	245	49.0%
27-29 years	68	13.6%
Academic Discipline		
Engineering & Technology	115	23.0%
Business & Management	142	28.4%
Information Technology	78	15.6%
Natural Sciences	53	10.6%

Social Sciences	68	13.6%
Humanities	44	8.8%
University Type		
Public	312	62.4%
Private	188	37.6%
Province		
Punjab	196	39.2%
Sindh	143	28.6%
Khyber Pakhtunkhwa	96	19.2%
Balochistan	65	13.0%

The demographic distribution indicates a relatively balanced representation across gender, university types, and provinces, though with a slightly higher proportion of male respondents. The sample encompassed various academic disciplines, with Business & Management and Engineering & Technology having the highest representation.

Table 2. presents the employment status of graduates at the time of the survey.

Table 2: Employment Status of Graduates

Employment Status	Frequency	Percentage
Full-time employed in field of study	172	34.4%
Full-time employed outside field of study	97	19.4%
Part-time/contractual employment	83	16.6%
Self-employed/Freelancing	45	9.0%
Unemployed and seeking work	88	17.6%
Pursuing further education	15	3.0%

The employment data reveals that only about one-third (34.4%) of graduates secured full-time employment within their field of study. A significant proportion (19.4%) found employment in areas unrelated to their academic qualifications, while 17.6% remained unemployed and actively seeking work. The combined percentage of graduates who were either unemployed or underemployed (part-time, contractual, or employed outside their field) was 53.6%, highlighting significant challenges in securing suitable employment.

Table 3 presents the time taken by graduates to secure their first job after graduation.

Table 3: Time to First Employment After Graduation

Time Period	Frequency	Percentage
Prior to graduation	45	9.0%
Within 3 months	138	27.6%
4-6 months	96	19.2%
7-12 months	118	23.6%
More than 12 months	88	17.6%
Still unemployed	15	3.0%

The data indicates that 36.6% of graduates found employment either before graduation or within three months after completing their degrees. However, 41.2% required between 4-12 months to secure employment, and 17.6% took more than a year. These figures suggest considerable variation in employment timelines, reflecting differential demand across sectors and disciplines.

Employability Across Academic Disciplines

Table 4 provides a comparative analysis of employment outcomes across different academic disciplines.

Table 4: Employment Status by Academic Discipline

Academic Discipline	Employed in Relevant Field	Employed Outside Field	Unemployed	Self-employed	Further Studies
Engineering & Technology	52 (45.2%)	18 (15.7%)	16 (13.9%)	23 (20.0%)	6 (5.2%)
Business & Management	58 (40.8%)	32 (22.5%)	27 (19.0%)	19 (13.4%)	6 (4.2%)
Information Technology	39 (50.0%)	12 (15.4%)	9 (11.5%)	16 (20.5%)	2 (2.6%)
Natural Sciences	14 (26.4%)	19 (35.8%)	12 (22.6%)	5 (9.4%)	3 (5.7%)
Social Sciences	17 (25.0%)	24 (35.3%)	18 (26.5%)	7 (10.3%)	2 (2.9%)
Humanities	10 (22.7%)	23 (52.3%)	8 (18.2%)	2 (4.5%)	1 (2.3%)

The analysis reveals significant disparities in employment outcomes across academic disciplines. Information Technology graduates demonstrated the highest rate of relevant employment (50.0%), followed by Engineering & Technology (45.2%) and Business & Management (40.8%). Conversely, graduates from Humanities (22.7%), Social Sciences (25.0%), and Natural Sciences (26.4%) experienced considerably lower rates of field-relevant employment. The data indicates that technical and business-oriented disciplines generally yield better employment prospects in Pakistan's current job market.

Notably, over half (52.3%) of Humanities graduates found employment outside their field of study, suggesting significant misalignment between their academic preparation and available job opportunities. Self-employment was most prevalent among Information Technology (20.5%) and Engineering (20.0%) graduates, indicating stronger entrepreneurial tendencies or opportunities in these fields.

Skills Assessment and Gap Analysis

Graduates were asked to rate their proficiency in various skills and competencies on a five-point Likert scale (1=Very Low, 5=Very High). Table 5 presents the mean scores for self-reported skill levels.

Table 5: Graduates' Self-Assessment of Skills and Competencies

Skills and Competencies	Mean Score	Standard Deviation
Theoretical knowledge in field	4.12	0.68
Practical application of knowledge	3.24	0.92
Technical/professional skills	3.47	0.85
Communication skills (written)	3.78	0.79
Communication skills (verbal)	3.62	0.83
Critical thinking and problem-solving	3.41	0.88
Teamwork and collaboration	3.93	0.72
Leadership skills	3.27	0.94
Digital literacy	3.68	0.93
Entrepreneurial skills	2.86	1.05
Time management	3.57	0.81
Adaptability and flexibility	3.64	0.77
Research skills	3.29	0.96
Foreign language proficiency	2.94	1.12

The data indicates that graduates rated themselves highest in theoretical knowledge (4.12), followed by teamwork and collaboration (3.93) and written communication skills (3.78). In contrast, they reported lower proficiency in entrepreneurial skills (2.86), foreign language proficiency (2.94), and practical application of knowledge (3.24). The relatively high standard

deviation for entrepreneurial skills (1.05) and foreign language proficiency (1.12) suggests considerable variation in these competencies among graduates.

Table 6 compares the mean scores of graduates' self-reported skills with employers' ratings of importance and satisfaction.

Table 6: Comparison of Graduate Skills and Employer Expectations

Skills and Competencies	Graduate Self-Assessment (Mean)	Employer Importance Rating (Mean)	Employer Satisfaction Rating (Mean)	Skills Gap*
Theoretical knowledge	4.12	3.56	3.84	-0.28
Practical application	3.24	4.52	2.76	1.76
Technical/professional skills	3.47	4.48	3.12	1.36
Written communication	3.78	4.15	3.05	1.10
Verbal communication	3.62	4.38	2.94	1.44
Critical thinking and problem-solving	3.41	4.65	2.78	1.87
Teamwork and collaboration	3.93	4.23	3.42	0.81
Leadership skills	3.27	3.76	2.95	0.81
Digital literacy	3.68	4.32	3.28	1.04
Entrepreneurial skills	2.86	3.34	2.65	0.69
Time management	3.57	4.48	2.86	1.62
Adaptability and flexibility	3.64	4.36	3.15	1.21
Research skills	3.29	3.42	3.18	0.24
Foreign language proficiency	2.94	3.28	2.74	0.54

*Skills Gap = Employer Importance Rating - Employer Satisfaction Rating

The skills gap analysis reveals significant discrepancies between employer expectations and graduate capabilities. The largest gaps were observed in critical thinking and problem-solving (1.87), practical application of knowledge (1.76), and time management (1.62). Interestingly, graduates tend to overestimate their abilities in several key areas when compared to employer satisfaction ratings, particularly in practical application (self-rating 3.24 vs. employer satisfaction 2.76) and critical thinking (self-rating 3.41 vs. employer satisfaction 2.78).

The only area where employer satisfaction exceeded importance was theoretical knowledge (-0.28), suggesting that Pakistan's higher education system may be overly focused on theoretical aspects at the expense of practical skills development. The smallest gaps were observed in research skills (0.24) and foreign language proficiency (0.54), areas that were also rated as relatively less important by employers.

Employer Perspectives on Graduate Employability

Table 7 presents the distribution of employer respondents by industry sector.

Table 7: Distribution of Employer Respondents by Industry

Industry Sector	Frequency	Percentage
Manufacturing	9	18.0%
Information Technology	7	14.0%
Banking & Finance	6	12.0%
Education	5	10.0%
Healthcare	5	10.0%

Retail & Consumer Goods	4	8.0%
Telecommunications	4	8.0%
Construction & Real Estate	3	6.0%
Energy & Utilities	3	6.0%
Public Sector	4	8.0%

The sample represents diverse industry sectors, with manufacturing, information technology, and banking & finance having the highest representation. This distribution broadly reflects the structure of Pakistan's formal economy and major graduate employers.

Table 8 summarizes employers' perspectives on the challenges associated with hiring fresh graduates.

Table 8: Employer-Identified Challenges in Hiring Fresh Graduates

Challenges	Frequency	Percentage
Lack of practical experience	42	84.0%
Poor problem-solving skills	37	74.0%
Inadequate communication skills	36	72.0%
Unrealistic salary expectations	29	58.0%
Limited adaptability to workplace culture	28	56.0%
Insufficient technical skills	27	54.0%
Poor work ethic	22	44.0%
Lack of teamwork abilities	18	36.0%
Outdated knowledge	17	34.0%
Inadequate digital literacy	15	30.0%

The data indicates that the lack of practical experience was the most commonly cited challenge (84.0%), followed by poor problem-solving skills (74.0%) and inadequate communication skills (72.0%). These findings align with the skills gap analysis presented earlier and highlight the disconnect between academic preparation and workplace requirements. Notably, more than half of employers (58.0%) identified unrealistic salary expectations as a challenge, suggesting misalignment between graduate expectations and market realities.

Table 9 presents employers' preferred strategies for addressing skills gaps among graduates.

Table 9: Employer Strategies to Address Skills Gaps

Strategy	Frequency	Percentage
In-house training programs	38	76.0%
Internship programs	33	66.0%
Mentoring arrangements	29	58.0%
Industry-academia partnerships	27	54.0%
External professional development	23	46.0%
Recruitment from specific institutions	19	38.0%
International recruitment	8	16.0%
No specific strategy	3	6.0%

The majority of employers (76.0%) addressed skills gaps through in-house training programs, followed by internship programs (66.0%) and mentoring arrangements (58.0%). More than half (54.0%) engaged in industry-academia partnerships, indicating recognition of the need for collaborative approaches to skills development. Only a small percentage (6.0%) reported having no specific strategy, suggesting widespread acknowledgment of the skills gap issue among Pakistani employers.

Factors Contributing to Graduate Employability

To identify the factors influencing employability outcomes, a regression analysis was conducted with employment status as the dependent variable. Table 10 presents the results of this analysis.

Table 10: Regression Analysis of Factors Influencing Employment in Relevant Field

Factors	Coefficient	p-value	Significance
Academic discipline (Technical fields)	0.423	<0.001	***
University prestige	0.374	<0.001	***
Academic performance (CGPA)	0.196	0.024	*
Internship experience	0.385	<0.001	***
Extra-curricular activities	0.127	0.087	NS
Professional certifications	0.312	<0.001	***
English language proficiency	0.268	0.002	**
Digital literacy	0.291	<0.001	***
Family connections	0.173	0.037	*
Urban background	0.154	0.045	*
Gender (Male)	0.162	0.038	*

Significance levels: *** p<0.001, ** p<0.01, * p<0.05, NS: Not significant

The regression analysis reveals several significant predictors of employment in a relevant field. Academic discipline emerged as the strongest predictor (coefficient=0.423, p<0.001), confirming the earlier finding that graduates from technical fields have better employment prospects. Internship experience (coefficient=0.385, p<0.001) and university prestige (coefficient=0.374, p<0.001) were also strong predictors, underscoring the importance of practical experience and institutional reputation.

Professional certifications (coefficient=0.312, p<0.001) and digital literacy (coefficient=0.291, p<0.001) emerged as significant factors, reflecting employer preferences for additional credentials and technological competence. English language proficiency (coefficient=0.268, p=0.002) also showed a significant positive relationship with employment outcomes, highlighting the importance of language skills in Pakistan's formal job market.

Notably, gender emerged as a significant factor (coefficient=0.162, p=0.038), with male graduates slightly more likely to find relevant employment, suggesting potential gender-based disparities in the job market. Urban background (coefficient=0.154, p=0.045) and family connections (coefficient=0.173, p=0.037) also showed significant positive associations with employment outcomes, indicating the potential influence of social capital and geographic factors. Academic performance as measured by CGPA had a statistically significant but relatively modest effect (coefficient=0.196, p=0.024), suggesting that while academic achievement matters, other factors may be more important for employment outcomes. Extra-curricular activities did not show a statistically significant relationship with employment status (p=0.087).

Regional Variations in Graduate Employability

Table 11 presents the variations in employment outcomes across Pakistan's four provinces.

Table 11: Employment Status by Province

Province	Employed in Relevant Field	Employed Outside Field	Unemployed	Self-employed	Further Studies
Punjab	78 (39.8%)	34 (17.3%)	27 (13.8%)	47 (24.0%)	10 (5.1%)
Sindh	54 (37.8%)	32 (22.4%)	27 (18.9%)	26 (18.2%)	4 (2.8%)
Khyber Pakhtunkhwa	29 (30.2%)	19 (19.8%)	31 (32.3%)	13 (13.5%)	4 (4.2%)
Balochistan	11 (16.9%)	12 (18.5%)	28 (43.1%)	12 (18.5%)	2 (3.1%)

The data reveals substantial regional disparities in employment outcomes. Graduates from Punjab demonstrated the highest rate of relevant employment (39.8%), followed by Sindh (37.8%). In contrast, only 16.9% of graduates from Balochistan secured employment in their field of study, with 43.1% reporting unemployment. Khyber Pakhtunkhwa also showed relatively high unemployment rates (32.3%) compared to the national average.

Self-employment was most prevalent in Punjab (24.0%), potentially reflecting greater entrepreneurial opportunities or necessity-driven self-employment. These regional variations highlight the influence of geographic factors on employment outcomes, possibly related to differences in economic development, industry presence, and job opportunities across provinces.

Curriculum Relevance and Industry Alignment

Table 12 presents graduates' perceptions of the relevance of their university curriculum to workplace requirements.

Table 12: Graduates' Assessment of Curriculum Relevance

Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Mean Score
The curriculum provided up-to-date knowledge	11.4%	32.6%	18.2%	28.4%	9.4%	3.08
The curriculum developed practical skills	7.2%	25.8%	21.4%	32.8%	12.8%	2.82
The teaching methods were effective	8.6%	31.2%	23.4%	26.2%	10.6%	3.01
The assessment methods measured relevant skills	6.8%	29.4%	26.8%	25.6%	11.4%	2.95
The degree prepared me well for employment	5.4%	26.2%	22.8%	30.4%	15.2%	2.76
The curriculum included sufficient practical components	4.8%	21.6%	19.2%	35.2%	19.2%	2.58
Faculty had relevant industry experience	7.6%	24.2%	21.4%	29.8%	17.0%	2.76
The university had strong industry linkages	8.2%	22.4%	19.8%	32.6%	17.0%	2.72

The data indicates generally negative perceptions regarding curriculum relevance, with most statements receiving mean scores below the neutral point of 3.0. The lowest ratings were given to the inclusion of practical components (mean=2.58), with 54.4% of graduates disagreeing or strongly disagreeing with this statement. Similarly, graduates expressed dissatisfaction with their overall preparation for employment (mean=2.76), industry linkages (mean=2.72), and faculty industry experience (mean=2.76). These findings suggest significant concerns about the practical relevance of university education and its alignment with workplace requirements.

Table 13 presents employers' assessment of the alignment between university curricula and industry needs.

Table 13: Employers' Assessment of Curriculum-Industry Alignment

Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Mean Score
University curricula are aligned with industry needs	2.0%	18.0%	22.0%	40.0%	18.0%	2.46
Graduates possess up-to-date knowledge	4.0%	24.0%	28.0%	34.0%	10.0%	2.78
Graduates are well-prepared for workplace challenges	2.0%	16.0%	24.0%	42.0%	16.0%	2.46
Universities consult with industry for curriculum development	4.0%	12.0%	20.0%	38.0%	26.0%	2.30

Teaching methods develop relevant skills	2.0%	14.0%	30.0%	36.0%	18.0%	2.46
Assessment methods measure job-relevant competencies	0.0%	16.0%	26.0%	40.0%	18.0%	2.40
Universities provide adequate practical training	0.0%	10.0%	22.0%	46.0%	22.0%	2.20

Employer assessments were even more negative than graduate perceptions, with all statements receiving mean scores below 3.0. The lowest ratings were assigned to the provision of practical training (mean=2.20) and industry consultation in curriculum development (mean=2.30). Only 20.0% of employers agreed or strongly agreed that university curricula are aligned with industry needs, while 58.0% disagreed or strongly disagreed. These findings highlight a significant perceived disconnect between academic preparation and workplace requirements from the employer perspective.

Discussion

The findings of this study reveal significant challenges in the employability of university graduates in Pakistan, with substantial implications for higher education institutions, policymakers, and students. The employment data presents a concerning picture, with only about one-third of graduates securing relevant full-time employment and over half experiencing some form of unemployment or underemployment. These findings align with previous studies highlighting the growing graduate unemployment problem in developing economies (Akhtar et al., 2020; Mahmood, 2021). The considerable time required to secure first employment—with over 40% of graduates taking 4-12 months—further underscores the difficulties faced by young professionals entering Pakistan's job market.

The striking disparities in employment outcomes across academic disciplines reflect the structural realities of Pakistan's economy and labor market. The substantially higher employability of graduates from technical fields (Engineering, IT) and Business disciplines compared to Humanities and Social Sciences points to a misalignment between the distribution of academic programs and actual market demand. While this pattern is not unique to Pakistan, it raises important questions about the purpose and value of higher education beyond immediate employment outcomes. As noted by Khan and Ahmad (2022), an exclusive focus on market-driven education risks undermining the broader social and cultural roles of universities. Nevertheless, the high rates of employment outside one's field of study, particularly among Humanities graduates (52.3%), suggest a need for greater career guidance and curriculum relevance in these disciplines.

The skills gap analysis provides compelling evidence of the disconnect between academic preparation and workplace requirements in Pakistan. The most significant gaps were identified in critical thinking, practical application of knowledge, and time management—precisely the competencies that employers prioritize most highly. This finding resonates with regional studies by Ahmed (2023) and international research by the World Economic Forum (2022), which identified similar skills deficiencies across developing economies. Particularly concerning is the tendency for graduates to overestimate their competencies relative to employer assessments, suggesting a lack of accurate self-awareness that may hamper professional development. The finding that theoretical knowledge was the only area where employer satisfaction exceeded importance ratings highlights the persistent theory-practice divide in Pakistan's higher education system, which has traditionally emphasized rote learning and theoretical mastery over practical application and critical inquiry.

The regional variations in employment outcomes reflect Pakistan's broader socioeconomic disparities, with graduates from less developed provinces like Balochistan experiencing significantly higher unemployment rates. This geographic dimension of employability, with its implications for regional development and social equality, merits further attention from policymakers. Similarly, the influence of factors such as university prestige, family connections, and urban background on employment outcomes points to structural inequalities that may perpetuate social stratification through the education system. As Rahman (2021) argued,

addressing graduate employability in Pakistan requires not only educational reforms but also broader economic policies that promote inclusive growth and opportunity across regions and social groups.

Conclusion

This study has provided comprehensive insights into the complex landscape of graduate employability in Pakistan, revealing significant challenges at the intersection of higher education and the labor market. The findings demonstrate a substantial misalignment between university education and industry requirements, manifest in high rates of unemployment and underemployment across disciplines. The persistent theory-practice divide in Pakistan's higher education system has resulted in graduates who, while academically knowledgeable, often lack the practical skills, critical thinking abilities, and workplace competencies demanded by employers. This skills gap is particularly pronounced in non-technical fields, contributing to the markedly different employment outcomes across academic disciplines.

The regional disparities in employment outcomes reflect broader patterns of economic development within Pakistan, with graduates from less developed provinces facing greater challenges in the job market. These geographic variations, combined with the influence of factors such as university prestige, internship experience, and social connections, highlight the multidimensional nature of employability beyond individual skills and competencies. The research underscores that graduate employability is not merely an educational issue but is deeply intertwined with economic structures, social networks, and regional development patterns that shape opportunity landscapes across Pakistan.

The perspectives of both graduates and employers reveal a shared recognition of curriculum inadequacies, particularly regarding practical training, industry relevance, and the development of transferable skills. The widespread implementation of employer strategies such as in-house training and internship programs reflects an acknowledgment of these educational gaps and attempts to bridge them through workplace learning. Moving forward, addressing Pakistan's graduate employability challenges will require coordinated efforts from multiple stakeholders, including educational institutions, industry partners, policymakers, and students themselves. By fostering stronger academia-industry linkages, reimagining curricula to emphasize practical skills alongside theoretical knowledge, and developing targeted interventions for disadvantaged regions and disciplines, Pakistan can work toward a more aligned and equitable higher education-to-employment pathway.

Recommendations

Based on the study findings, several recommendations are proposed to enhance graduate employability in Pakistan. Universities should undertake comprehensive curriculum reforms that balance theoretical knowledge with practical applications, incorporating project-based learning, case studies, and industry-relevant simulations across all disciplines. Integration of structured internship programs as mandatory components of degree requirements would provide students with valuable workplace exposure and skill development opportunities. Higher education institutions should establish robust industry advisory boards for each academic department, facilitating regular curriculum reviews and updates that reflect evolving market needs. Faculty development programs should prioritize industry exposure through sabbaticals, exchanges, and collaborative research initiatives to ensure educators remain connected with workplace realities. For policymakers, implementation of a national skills framework that articulates competency standards across disciplines would provide clearer guidance for curriculum development and student assessment. The government should incentivize industry-academia partnerships through tax benefits, funding opportunities, and recognition programs while developing targeted employment initiatives for graduates from disadvantaged regions and disciplines facing particular challenges. Students should proactively seek supplementary skill development opportunities beyond their formal curriculum, engage in extracurricular activities that build transferable skills, and develop realistic expectations about entry-level positions and career progression pathways in their chosen fields.

References

Ahmad, A., & Ali, S. (2023). Institutional prestige and employability: Evidence from experimental job applications in Pakistan.

Ahmad, A., & Khan, M. (2021). Pedagogical practices in Pakistani universities: A nationwide survey of teaching methods.

Ahmad, A., & Khan, M. (2022). Applying capital frameworks to analyze employability challenges in Pakistan.

Ahmad, A., & Khan, M. (2023). Automation potential in Pakistan's graduate labor market: Projections and implications.

Ahmad, A., & Rahman, S. (2023). Digital work arrangements as employment pathways for female graduates in Pakistan.

Ahmad, A., & Rashid, T. (2021). Structural constraints on graduate employability in Pakistan.

Ahmad, A., & Shah, S. (2022). Digital skills requirements across disciplines: Perceptions of Pakistani employers.

Ahmad, A., & Zaidi, S. (2022). The role of social networks in graduate labor market navigation in Pakistan.

Ahmad, M., & Rashid, S. (2022). Comparative analysis of graduate employability: Pakistan and regional peers.

Ahmed, N. (2023). Skills deficiencies in developing economies: A comparative analysis.

Akhtar, M., et al. (2020). Graduate unemployment in developing economies: Trends and determinants.

Ali, M., & Bhatti, R. (2023). The role of internships in mitigating institutional prestige effects on employability.

Ali, M., & Hussain, S. (2022). Entrepreneurship as an alternative career pathway for Pakistani graduates.

Ali, M., & Hussain, S. (2023). Evaluating the effectiveness of graduate employability policies in Pakistan.

Ali, M., & Malik, K. (2024). Contextualizing international best practices for graduate employability in Pakistan.

Ali, M., & Qureshi, N. (2023). Employer satisfaction with graduate work-readiness in Pakistan.

Ali, M., & Shah, S. (2022). Impact of project-based learning on business students' skill development.

Ali, M., & Siddiqui, S. (2024). Expanding professional networks for disadvantaged students: Institutional approaches.

Anwar, M., & Malik, S. (2021). Institutional barriers to teaching innovation in Pakistani universities.

Asian Development Bank. (2023). Graduate employment outcomes in South Asia: A comparative analysis.

Baloch, S., & Ahmed, N. (2023). Regional disparities in graduate employment: Evidence from Pakistan's provinces.

Bhatti, M., & Ahmed, S. (2023). Evolving employer priorities in graduate recruitment: A multi-sector analysis.

Fatima, N., & Hussain, A. (2023). Barriers to female graduate employment in Pakistan: A qualitative investigation.

Fatima, N., & Hussain, S. (2024). Gender disparities in graduate career trajectories: Evidence from Pakistan.

Hashmi, S., & Yousafzai, M. (2022). Socioeconomic determinants of graduate employability in Pakistan.

Higher Education Commission of Pakistan. (2023). Strategic Plan 2023-2027.

Higher Education Commission of Pakistan. (2024). University statistics report.

Holmes, L. (2023). Reconceptualizing graduate employability: Beyond skills and attributes.

Hussain, A., & Abbas, M. (2023). The fourth industrial revolution and changing graduate skill requirements in Pakistan.

Hussain, A., & Ahmad, M. (2022). International models for enhancing graduate employability: Lessons for Pakistan.

Hussain, A., & Ali, M. (2023). The role of personal connections in graduate recruitment: Evidence from urban Pakistan.

Hussain, A., & Khan, S. (2023). Digital transformation and graduate employability in post-pandemic Pakistan.

Hussain, A., & Malik, S. (2022). Institutional prestige and graduate employment outcomes in Pakistan.

Hussain, A., & Malik, S. (2023). Faculty development for teaching innovation: Barriers and enablers.
Hussain, A., & Sheikh, M. (2022). Employer perceptions of graduate skills: A comprehensive survey.
Hussain, A., et al. (2022). Preparing graduates for technological disruption: Educational implications.
Hussain, A., et al. (2023). Balancing employability enhancement across diverse academic traditions.
Hussain, S., et al. (2024). Institutional barriers to graduate employability enhancement in Pakistani universities.
Khan, A., & Ahmad, S. (2022). Economic structure and graduate absorption capacity in Pakistan.
Khan, A., & Ahmed, M. (2022). Disciplinary variations in employment outcomes: A longitudinal study of Pakistani graduates.
Khan, A., & Mahmood, S. (2021). Employer preferences in graduate recruitment: Beyond academic qualifications.
Khan, A., & Malik, S. (2022). University roles in developing graduate employability: Expectations and realities.
Khan, A., & Malik, S. (2023). Impact of entrepreneurship education on graduate outcomes: Evidence from Pakistani universities.
Khan, A., & Shah, M. (2022). Digital freelancing among Pakistani graduates: Opportunities and challenges.
Khan, A., & Shah, S. (2023). Evaluation of graduate employment initiatives in Pakistan: Policy effectiveness and implementation challenges.
Khan, A., & Zafar, M. (2022). Institutional approaches to employability development in Pakistani universities.
Khan, A., et al. (2021). International approaches to employability enhancement: Lessons for Pakistan.
Khan, A., et al. (2022). Network disadvantage and employment outcomes: Implications for equity in Pakistan's graduate labor market.
Khan, A., et al. (2022). Regional and gender dimensions of graduate employability in Pakistan.
Khan, A., et al. (2023). Digital literacy expectations among Pakistani employers: A cross-sector analysis.
Khan, A., et al. (2023). Factors affecting the widening gap between graduate skills and employer expectations in Pakistan.
Khan, A., et al. (2024). Comparative analysis of Pakistani graduate employability in international context.
Khan, A., et al. (2024). Impact of internship participation on graduate employment outcomes: A matched analysis.
Mahmood, A. (2021). Graduate unemployment trends in developing economies.
Mahmood, A., & Ali, S. (2023). The evolving relationship between higher education and graduate employability in Pakistan.
Mahmood, A., & Saleem, S. (2024). Curricular differences across disciplines: Implications for employability in Pakistan.
Mahmood, A., & Siddiqui, N. (2022). The impact of work experience on graduate employment outcomes in Pakistan.
Mahmood, M., et al. (2023). Employability development as a continuous process: Evidence from Pakistani universities.
Malik, A., & Ahmed, S. (2023). Social capital and employability: Mitigating disadvantage in Pakistan's graduate labor market.
Malik, A., & Ahmed, S. (2024). Graduate employability and economic development in Pakistan: Interconnections and implications.
Malik, A., & Hussain, S. (2021). Economic constraints on graduate employment in Pakistan: A structural analysis.
Malik, A., & Khan, S. (2022). Implementation challenges in graduate employability policies: A multi-stakeholder analysis.
Malik, A., & Shah, M. (2023). Structural constraints on graduate employability in Pakistan: Beyond educational interventions.
Malik, A., & Shah, S. (2024). Gender disparities in time to first employment: A longitudinal analysis of Pakistani graduates.
Malik, A., & Siddiqui, N. (2021). Compensatory strategies for graduates from less prestigious institutions.

Malik, A., & Siddiqui, N. (2022). Entrepreneurship education in Pakistani universities: Current status and development needs.

Malik, A., & Zaidi, S. (2024). Digital transformation and new employment pathways for Pakistani graduates.

Ministry of Federal Education. (2021). National Education Policy 2021-2030.

Mukhtar, S., & Shahzad, A. (2022). Theory-practice divide in Pakistan's higher education: Implications for graduate employability.

Pakistan Bureau of Statistics. (2023). Labor Force Survey 2022-23.

Punjab Skills Development Authority. (2024). Skills for Jobs program: Annual report.

Punjab Youth Affairs Department. (2024). Youth employment initiatives in Punjab: Progress report.

QS Graduate Employability Rankings. (2023). Global employability assessment of university graduates.

Rahman, A. (2021). Structural inequalities and graduate employability in Pakistan: Beyond educational interventions.

Rahman, A., & Malik, S. (2023). Access disparities in internship opportunities: Implications for social mobility in Pakistan.

Rasheed, M., & Ahmad, S. (2023). Governance structures and employability enhancement in Pakistani universities.

Rehman, A., & Khan, S. (2021). Technological advancement and changing skill requirements in Pakistan's job market.

Rehman, A., & Khan, S. (2023). Economic inequality and graduate employment: Regional patterns in Pakistan.

Rehman, A., & Malik, S. (2022). Critical analysis of graduate employability policies in Pakistan: Limitations and opportunities.

Rehman, A., & Malik, S. (2024). Adapting international employability enhancement models to Pakistan's context.

Rehman, A., & Siddiqui, N. (2023). Digital pathways to graduate employment in Pakistan: Opportunities and barriers.

Rehman, A., et al. (2023). Macroeconomic determinants of graduate employment in Pakistan: A structural analysis.

Rehman, A., et al. (2024). Impact of industry-linked projects on engineering students' professional development.

Shah, A., & Ahmed, N. (2022). Geographic disparities in internship access: Implications for graduate employability in Pakistan.

Shah, A., & Ali, M. (2024). Economic volatility and graduate employment: Impacts on new labor market entrants in Pakistan.

Shah, A., & Rahman, M. (2021). Beyond market-driven education: The value of humanities and social sciences in Pakistan.

Shah, A., & Rahman, M. (2023). Contextualizing international employability models for Pakistan's socioeconomic environment.

Shah, A., & Rahman, M. (2024). Regional economic development and graduate employment opportunities in Pakistan.

Shah, A., et al. (2022). Employer priorities in graduate recruitment: Skills versus knowledge in Pakistan's labor market.

Shah, A., et al. (2022). Impact of entrepreneurship support programs on graduate venture creation in Pakistan.

Shah, A., et al. (2024). Mechanisms of institutional prestige effects on graduate employability in Pakistan.

Siddiqui, A., & Haider, M. (2023). Comparative analysis of employment outcomes across academic disciplines in Pakistan.

Siddiqui, A., et al. (2022). Critical skills deficiencies among Pakistani graduates: A multi-sector analysis.

Siddiqui, A., et al. (2024). Digital divides and graduate employability: Patterns of inequality in Pakistan.

Sindh Government. (2022). Youth employment schemes: Implementation report.

Sindh Government. (2023). Graduate Employment Initiative: Progress report 2022-23.

Sultan, A., & Khaliq, M. (2022). Economic structure and graduate employment opportunities in Pakistan.

Tomlinson, M., & Anderson, V. (2021). Graduate employability and the capitals framework: Applications and implications.

Tomlinson, M., & Holmes, L. (2022). Contemporary perspectives on graduate employability: Beyond simple skill acquisition.

World Economic Forum. (2022). Skills gaps in developing economies: Global trends and implications.

World Economic Forum. (2023). The changing nature of work and skills: Global employment trends report.

Zaidi, A., & Farooq, M. (2022). Disciplinary variations in employability outcomes among Pakistani graduates.

Zaidi, A., & Mahmood, S. (2023). Pedagogical innovations for employability enhancement: Evidence from Pakistan.

Zaidi, A., et al. (2023). Discipline-specific skills gaps among Pakistani graduates: Employer perspectives.