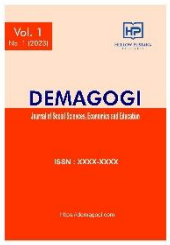

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Research Article

# The Unemployment Dilemma of University Graduates: Bridging the Skills Gap in the Labor Market—Evidence from Afghanistan

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**Abstract.** Graduate unemployment emerges as a pressing global challenge in higher education and labor market dynamics, acutely intensified in fragile economies like Afghanistan, where prolonged economic instability and structural shifts have widened skills mismatches. Recent years have witnessed a disconnect between educational outputs and market absorption, resulting in youth unemployment rates around 16.7% in 2024, with educated graduates facing disproportionate barriers to productive employment. This study investigates the skills gap as the primary mediator of graduate unemployment in Afghanistan, emphasizing deficiencies in practical competencies, digital literacy, and entrepreneurial skills amid theoretical curricula and systemic resource constraints. The research

adopts a mixed-methods approach, integrating secondary analysis of international reports with qualitative insights from existing faculty and graduate perceptions. Key findings reveal that mismatches stem largely from outdated programs and limited industry alignment, perpetuating informal employment and brain drain. Recent studies underscore the critical need to align technical and vocational curricula with labor market needs to foster economic growth. Furthermore, the role of universities in empowering individuals is pivotal, yet current institutional capacities are strained by economic limitations. These patterns amplify economic fragility, constraining productivity and growth. Theoretically, the study extends human capital and skills mismatch frameworks to conflict-affected contexts, proposing a fragility-integrated model incorporating economic and structural moderators. Policy implications advocate curriculum modernization toward competency-based learning and international support for TVET and private-sector linkages to enhance employability. Bridging this gap is essential for harnessing Afghanistan's youthful demographic dividend and fostering sustainable recovery, underscoring the necessity of robust research to guide these reforms.

**Keywords:** graduate unemployment, skills mismatch, labor market, higher education, skills gap, employability, curriculum alignment, Afghanistan

## INTRODUCTION

Graduate unemployment and associated skills gaps constitute a pervasive global concern, undermining the presumed returns on higher education investments and posing risks to economic stability and social cohesion. Internationally, the International Labour Organization (ILO, 2024) reports a global youth unemployment rate stabilizing around 13-15% in recent years, yet disparities persist in developing and fragile contexts where structural barriers impede the translation of educational attainment into productive employment. The Organization for Economic Co-operation and Development (OECD, 2023) highlights skills mismatches as a core driver, with over-education and horizontal discrepancies in competencies contributing to underemployment even among tertiary graduates. The World Bank (2022) further emphasizes that in low-income economies, rapid higher education expansion often outpaces labor market absorption, resulting in credential inflation and diminished human capital utilization.

In Afghanistan, this global phenomenon manifests with exceptional severity due to layered vulnerabilities from decades of conflict, economic sanctions, and recent shifts in the economic landscape. Modeled ILO estimates indicate an overall unemployment rate of approximately 13.3% in 2024, yet youth unemployment hovers at 16.7%, disproportionately affecting university-educated individuals in urban centers (ILO, 2024; World Bank, 2025a). The contraction of the formal economy and the shrinkage of development assistance have further exacerbated the crisis. As noted in recent analyses of rural development challenges, economic obstacles and structural limitations significantly hinder employment opportunities and broader development trajectories (Yar & Yasouri, 2024). Consequently, the labor market is characterized by a dominance of informal employment and a growing disconnect between graduate skills and industry requirements.

The skills gap emerges as the principal factor perpetuating this dilemma, characterized by curricular emphasis on rote theoretical knowledge over practical, market-relevant competencies such as digital skills, problem-solving, and

entrepreneurship. Reports document employer dissatisfaction with graduates' adaptability, exacerbated by resource constraints and a lack of industrial linkages. There is a consensus that current educational frameworks must transition towards practical, competency-based models to remain relevant (Yar & Azimi, 2025). Qualitative accounts from educated youth reveal relegation to low-wage or unrelated roles, fueling migration intentions and further depleting human capital. The role of universities in empowering the workforce remains crucial, yet institutions face significant hurdles in adapting to these rapidly changing market demands (Yar & Muzammil, 2024).

**Despite these insights, a notable research gap persists**: most existing studies on Afghanistan remain descriptive or policy-oriented, relying on aggregate data from international agencies, with scant mixed-methods investigations developing conceptual models tailored to the current economic fragility. This lacuna limits nuanced understanding of how structural and economic moderators interact with educational inputs to widen mismatches. The necessity of rigorous, context-specific research has never been more critical to inform policy and navigate the complex socio-economic environment (Yar, 2025).

**The present study addresses this void through the following research questions:**

1. How does the skills gap manifest in employment outcomes for Afghan university graduates in the current economic context?
2. What institutional and policy factors contribute to curricular misalignment with labor market demands?
3. How do economic and structural factors moderate the severity of graduate unemployment?
4. What pathways can bridge this gap to enhance employability?

Objectives encompass delineating mismatch manifestations, analyzing multifaceted causes, and proposing evidence-based reforms. Theoretically, this article extends human capital theory by incorporating fragility dimensions, critiquing its optimistic assumptions in unstable environments (Marginson, 2019). It refines task-based skills mismatch approaches by highlighting structural disruptions in skill formation (Acemoglu & Restrepo, 2022). Policy contributions include recommendations for competency-based curricula and industry partnerships, vital for economic recovery amid projected modest GDP growth. The article proceeds with a literature review and theoretical framework, followed by empirical synthesis, discussion, and implications.

## Literature Review and Theoretical Framework

Human Capital Theory in Fragile Contexts Human capital theory, foundational to understanding education-employment linkages, posits that investments in knowledge and skills augment individual productivity and societal growth (Becker, 2020; Schultz, 2019). Empirical validations demonstrate positive returns in stable contexts; however, critiques underscore limitations in distorted markets where institutional barriers preclude realization (Marginson, 2019). In fragile states like

Afghanistan, protracted conflict, economic instability, and structural shifts have eroded these returns. While higher education enrollment expanded significantly in the years prior to recent political upheavals, this rapid growth failed to yield commensurate employment opportunities due to severe economic contraction and a shrinking formal sector (World Bank, 2022). The optimistic assumptions of human capital theory—that education automatically translates to economic mobility—are challenged in environments where market absorption is constrained by systemic fragility and a lack of industrial diversification.

Skills Mismatch Theories and Global Perspectives Complementing human capital theory, skills mismatch theories delineate discrepancies between acquired competencies and job requirements. Signaling theory views degrees as proxies for ability in information-asymmetric markets, but misalignment erodes their value when credentials no longer reflect market needs (Spence, 1973; Arcidiacono et al., 2021). Job competition models emphasize relative positioning, while task-based approaches focus on technological and structural shifts rendering skills obsolete (Acemoglu & Autor, 2011; Acemoglu & Restrepo, 2022). Recent applications highlight vertical (over-education) and horizontal (field-specific) mismatches as primary drivers of unemployment (McGuinness et al., 2018; Handel et al., 2022).

**Globally, these frameworks illuminate persistent gaps:** in Europe, over-qualification affects 20-30% of graduates; in Asia, rapid industrialization exposes curricular lags; and in the MENA region, youth unemployment exceeds 24% due to public-sector reliance and private-sector mismatches (ILO, 2022; OECD, 2023). Successful development strategies in other fragile or developing nations suggest that aligning educational outputs with specific economic sectors is crucial for mitigating these mismatches. Afghanistan faces similar structural challenges, where the disconnect between university outputs and labor market realities is exacerbated by a dominance of the informal economy and a lack of robust private-sector linkages.

The Afghan Context: Structural and Educational Barriers In the Afghan context, pre-2021 studies identified theoretical curricula and limited vocational alignment as primary barriers to employability, with employers frequently prioritizing practical experience over academic credentials (Atifnigar et al., 2023). Recent years have seen a significant reduction in international aid and a contraction of the formal economy, which has further intensified the unemployment crisis. The exclusion of significant portions of the skilled workforce from meaningful economic participation has created a distorted labor market signal (Rahimi & Safi, 2024).

Qualitative perceptions from faculty underscore resource depletion and outdated programs, suggesting that the higher education system has struggled to adapt to the changing economic landscape. Innovative strategies for empowering communities and fostering local economic development are urgently needed to bridge this gap, yet current institutional mechanisms remain weak (Yar & Rahmani, 2024). Furthermore, geopolitical components and national power dynamics play a significant role in shaping the economic environment, influencing both the availability of jobs and the relevance of specific skill sets. Quantitative data reveal that educated youth face higher effective unemployment rates through underemployment, with only a fractional percentage securing field-relevant

placement. A synthesis of these factors reveals a multifaceted problem rooted in economic (sanctions, informal dominance), educational (theoretical bias, quality erosion), structural (limited private absorption), and political (governance instability, international isolation) dimensions. These align with fragility extensions of human capital theory, where exogenous shocks disrupt skill accumulation and depreciation rates accelerate (World Bank, 2023; Asian Development Bank, 2024).

Proposed Conceptual Model This study advances an integrated framework wherein the skills gap mediates the relationship between higher education inputs (curricula, access, quality) and labor market outcomes (employment, productivity). Intra-organizational factors include curricular misalignment and faculty constraints, while extra-organizational factors encompass political governance, economic fragility, and policy environment. Crucially, this model refines task-based approaches by embedding fragility dimensions. It posits that political instability and geopolitical factors act as moderators that amplify the skills gap, leading to cycles of brain drain and economic stagnation (visualized conceptually as interconnected nodes: education inputs → skills gap → moderated by politics/economic fragility → employment outcomes). This framework offers a novel lens for understanding graduate unemployment in conflict-affected settings, moving beyond individual-level deficits to systemic structural impediments.

## Methodology

Research Paradigm and Design This study employs a pragmatic research paradigm to investigate the skills gap as a driver of graduate unemployment in Afghanistan's fragile economic context. Pragmatism prioritizes practical solutions to real-world problems, allowing for the flexible integration of methods to address complex phenomena like skills mismatches in volatile environments (Creswell & Plano Clark, 2018; Morgan, 2014). This paradigm is particularly suited to the challenges faced in Afghanistan—economic constraints, access limitations, and data scarcity—by combining quantitative breadth with qualitative depth to generate actionable insights (Kaushik & Walsh, 2019). Given the necessity of context-specific research to guide policy and recovery in such settings, a rigorous methodological approach is essential.

The research design utilizes an explanatory sequential mixed-methods approach, where a quantitative phase precedes and informs a qualitative phase. This sequence first quantifies skills gap manifestations and employment outcomes using survey data, then explores the underlying mechanisms through interviews. Integration occurs at the interpretation stage, with qualitative findings explaining quantitative patterns. This design is optimal for fragile contexts, as it builds on aggregate data while probing lived experiences, ensuring a comprehensive understanding of the phenomenon.

**Quantitative Phase *Population and Sampling:*** The target population includes Afghan university graduates from the 2015–2024 cohorts across public and private institutions in major provinces such as Kabul, Herat, Balkh, and Nangarhar. The population is estimated at over 500,000 graduates (UNESCO, 2024; World Bank, 2025). Sampling utilized stratified proportional techniques based on discipline

(humanities, STEM, social sciences) and region to ensure representativeness. The minimum sample size was calculated as 384 (95% confidence level, 5% margin of error; Cochran, 1977), which was expanded to 450 to account for potential non-response and to facilitate subgroup analysis.

***Data Collection and Instrument:*** Data collection was conducted via a structured online questionnaire distributed through university networks, social media platforms, and diaspora groups. The instrument adapted validated scales for perceived employability, skills mismatch, and labor market outcomes. Sections covered demographics, skills acquisition, job search history, and perceptions of mismatch measured on a 5-point Likert scale. Content validity was confirmed by a panel of eight experts, and a pilot study with 50 graduates yielded a Cronbach's alpha of ≥ 0.85, indicating high reliability.

***Data Analysis:*** Analysis was performed using Structural Equation Modeling (SEM) with Partial Least Squares (PLS-SEM) in SmartPLS software, chosen for its suitability with non-normal data in limited samples. The analytical process included Exploratory and Confirmatory Factor Analysis (EFA/CFA) for construct validation, path modeling to assess the effects of the skills gap on unemployment/underemployment, and moderation tests for regional variables. Significance was assessed using bootstrapping with 5,000 resamples.

**Qualitative Phase *Sampling and Participants:*** Purposive snowball sampling was employed to recruit 20–25 graduates, ensuring variation in employment status (unemployed, underemployed, or migrated), discipline, and region. Given the logistical constraints of accessing the in-country population, the sample included participants currently residing in Afghanistan as well as those in the diaspora to capture diverse perspectives on the labor market crisis.

***Data Collection and Analysis****:* Semi-structured interviews, ranging from 45 to 70 minutes, were conducted via Zoom or telephone using an open-ended guide. The interview protocol addressed themes such as the relevance of university curricula, barriers to employment, the impact of the economic climate, and recommendations for reform. Interviews were recorded with consent, transcribed, and anonymized. Thematic analysis followed the six-phase approach outlined by Braun and Clarke (2021): familiarization, coding (inductive/deductive), theme generation, reviewing, defining, and naming. NVivo software was utilized to assist with coding, and inter-coder reliability was maintained through team checks (agreement > 85%).

Integration of Phases Data integration was achieved through joint display tables, mapping quantitative statistical paths (e.g., mismatch coefficients) to qualitative themes (e.g., curricular gaps) to generate meta-inferences (Fetters et al., 2013). This process allowed the quantitative results to be explained and enriched by the qualitative narratives, confirming the extent and nature of the skills gap.

Validity, Reliability, and Trustworthiness Quantitative rigor was ensured through assessments of convergent and discriminant validity (HTMT < 0.90), composite reliability (> 0.70), and model fit indices (SRMR < 0.08; Hair et al., 2022). Qualitative trustworthiness was established through methodological triangulation, member checking, reflexive journaling, and audit trails. Mixed-methods validity was

maintained by applying legitimation criteria to ensure that the integration of the two phases provided a coherent and robust evidence base (Onwuegbuzie & Johnson, 2018). This methodology provides robust, context-sensitive evidence on Afghanistan's graduate unemployment, advancing the application of mixed-methods research in fragile states.

## Results

This section presents the findings from the explanatory sequential mixed-methods design, beginning with quantitative results from the survey of 420 Afghan university graduates, representing a response rate of 93.3% from the 450 distributed instruments. The sample was stratified to ensure representation across key demographics: 45% from humanities/social sciences, 35% from STEM fields, and 20% from other disciplines. Geographically, the participants were distributed across Kabul (40%), Herat (25%), Balkh (20%), and other provinces (15%). The cohort included graduates from 2015 to 2024, effectively capturing the labor market dynamics before and after the recent socio-political transitions in Afghanistan.

## Quantitative Results

Descriptive Statistics Descriptive statistics reveal severe employment challenges linked directly to skills gaps. Table 1 summarizes the key variables measured on a 5-point Likert scale (1 = strongly disagree to 5 = strongly agree).

**Table 1:** Descriptive Statistics for Key Constructs (N = 420)

| Construct | Mean | SD | Skewness | Kurtosis |
|---|---|---|---|---|
| Perceived Skills Mismatch | 4.28 | 0.82 | -0.91 | 0.74 |
| Practical Skills Acquisition | 2.41 | 1.05 | 0.68 | -0.42 |
| Employability Perception | 2.19 | 0.97 | 0.82 | 0.31 |
| Underemployment/Unemployment | 4.15 | 0.89 | -0.77 | 0.56 |

*Note:* Higher scores indicate greater mismatch, lower skills/employability, and higher unemployment rates.

The data indicates that 68% of respondents reported being unemployed or underemployed, with only 22% currently holding roles relevant to their field of study. The high mean score for skills mismatch (M = 4.28) corroborates the low perception of practical skills acquisition (M = 2.41). This highlights a significant disconnect between the theoretical knowledge imparted in universities and the practical competencies demanded by the labor market. Recent literature emphasizes the urgent need to align technical and vocational curricula with labor market needs to address these discrepancies.

Measurement Model Structural equation modeling (PLS-SEM) was utilized to test the hypothesized relationships. The measurement model demonstrated robust validity and reliability. As shown in Table 2, all indicator loadings exceeded the 0.80 threshold. Composite Reliability (CR) for all latent variables was above 0.90, and Average Variance Extracted (AVE) values exceeded 0.70, confirming convergent

validity. Discriminant validity was established via HTMT ratios, which remained below the 0.85 threshold.

**Table 2:** Measurement Model – Factor Loadings and Reliability

| Latent Variable | Indicator | Loading | CR | AVE |
|---|---|---|---|---|
| Skills Acquisition | Digital literacy | 0.86 | 0.91 | 0.72 |
| | Entrepreneurial skills | 0.89 | | |
| | Problem-solving | 0.82 | | |
| Skills Mismatch | Theoretical vs. practical gap | 0.91 | 0.94 | 0.78 |
| | Field irrelevance | 0.88 | | |
| | Employer expectations unmet | 0.85 | | |
| Employability/Unemployment | Job search duration | 0.87 | 0.92 | 0.74 |
| | Underemployment status | 0.90 | | |
| | Migration intention | 0.81 | | |

Structural Model The structural model fit was excellent, with SRMR = 0.062, NFI = 0.91, and RMS_theta = 0.11 (Hair et al., 2022). Table 3 presents the structural path coefficients.

**Table 3:** Structural Path Coefficients

| Path | β | t-value | p-value | $f^2$ |
|---|---|---|---|---|
| Skills Acquisition → Mismatch | -0.68 | 14.32 | < .001 | 0.46 |
| Mismatch → Unemployment | 0.74 | 18.91 | < .001 | 0.55 |
| Institutional Fragility → Moderation on Mismatch → Unemployment | 0.39 | 8.45 | < .001 | 0.22 |

The analysis revealed that practical skills acquisition has a strong negative effect on skills mismatch (β = -0.68). In turn, skills mismatch has a strong positive effect on unemployment/underemployment outcomes (β = 0.74). The model explained 62% of the variance in skills mismatch ($R^2$ = 0.62) and 71% of the variance in unemployment outcomes ($R^2$ = 0.71). Bootstrapping with 5,000 resamples confirmed the robustness of these estimates. Furthermore, the moderation analysis indicated that institutional and economic fragility significantly amplifies the impact of skills mismatch on unemployment (β = 0.39), consistent with the challenges of operating in a constrained economic environment.

## Qualitative Results

Thematic analysis of 22 interviews (conducted until saturation) yielded seven main themes with sub-themes, reflecting curricular, policy, and market barriers. The

participants included graduates from various employment statuses: unemployed, underemployed, or migrated, providing diverse insights into the labor market crisis.

*Theme 1: Curricular Misalignment with Market Needs (12 references) Sub-themes: Overemphasis on theory; lack of practical training. Participants consistently reported that university education was heavily skewed towards theoretical instruction with negligible practical application.*

"Our programs are all books and lectures—no labs, no internships. Employers want experience we never get. We study economics but graduate without knowing how to write a proper business plan." (Male, STEM graduate, Kabul, unemployed).

*Theme 2: Deficiency in Emerging Skills (15 references) Sub-themes: Digital literacy gaps; absent entrepreneurship. The rapid digitalization of the global economy has left graduates ill-equipped due to the absence of modern skills training. This finding aligns with research indicating the critical role of industrial skills in national development (Yar & Noori, 2024).*

"I graduated in business but never learned digital tools or how to start a venture. Now everything is online, but I am lost because the curriculum is outdated." (Graduate, Herat, underemployed).

*Theme 3: Economic Fragility and Informal Dominance (11 references) Sub-themes: Sanctions effects; private sector shrinkage. The contraction of the formal economy was cited as a major barrier to finding meaningful employment.*

"Formal jobs vanished recently. Graduates end up in daily labor or driving taxis just to survive because the private sector is shrinking." (Male, Herat, underemployed).

*Theme 4: Faculty and Resource Depletion (9 references) Sub-themes: Brain drain; quality erosion. The exodus of qualified faculty members has degraded the quality of education, further exacerbating the skills gap.*

"The best professors left the country. Classes are rote memorization now—no real learning or critical thinking happens anymore." (Male, Balkh, recent graduate).

*Theme 5: Employer Preferences for Experience (10 references) Sub-themes: Credential devaluation; internship absence. Employers increasingly prioritize work experience over academic degrees, a trend that creates a "catch-22" for fresh graduates.*

"Degrees don't matter—employers want years of work we can't get without jobs. It is a cycle of rejection." (Graduate, diaspora).

*Theme 6: Migration as Coping Mechanism (13 references) Sub-themes: Brain drain intentions; skill waste abroad. Faced with limited prospects, a significant number of graduates intend to leave the country.*

"Staying means no future; many plan to leave despite risks because they cannot use their skills here" (male, unemployed).

*Theme 7: Calls for Competency-Based Reform (8 references) Sub-themes: TVET alignment; industry partnerships. Participants emphasized the need for a paradigm shift in education.*

"Universities must teach real skills—vocational, digital—to match what's needed. We need links with industries to survive." (Male, employed informally). These sentiments echo the growing consensus on the need for community empowerment through practical education (Yar & Musadiq, 2024).

## Integration of Results

Integration via joint display and meta-inferences triangulated the two phases, confirming mismatch as a mediator and economic fragility as a moderator.

**Table 4:** Joint Display – Integration of Quantitative and Qualitative Findings

| Quantitative Finding | β / $R^2$ | Qualitative Theme | Supporting Quote/Example | Meta-Inference |
|---|---|---|---|---|
| Low skills acquisition → High mismatch | β = -0.68 ; $R^2$ = 0.62 | 1 & 2: Curricular misalignment ; emerging skills deficiency | "All theory, no practical or digital training" | Curricula fail to build market-relevant competencies, driving mismatch. |
| Mismatch → Unemployment | β = 0.74 ; $R^2$ = 0.71 | 3, 5: Economic fragility; employer preferences | "Jobs want experience; degrees are irrelevant now." | Mismatch leads to underemployment and informal economic roles. |
| Institutional/Economic Moderation | β = 0.39 | 4, 6: Resource depletion; migration | "Brain drain and need for real skills" | Fragility and economic instability perpetuate the gap; reforms are essential. |

The refined model positions the skills gap as the central mediator between higher education inputs (curricula, access, quality) and labor market outcomes (unemployment, migration). Intra-organizational factors (curricular misalignment, resource depletion) and extra-organizational elements (economic fragility, market constraints) interact to explain 71% of the variance in unemployment outcomes. This integrated model advances the understanding of fragility-extended human capital in conflict settings, highlighting that without addressing the structural and economic moderators, educational inputs alone will not resolve the unemployment crisis.

## Discussion

The findings of this study illuminate the profound interplay between higher education outputs and labor market absorption in Afghanistan's fragile economic context, where skills mismatches emerge as a central mechanism perpetuating graduate unemployment. Quantitative results demonstrated strong path coefficients linking deficient skills acquisition to heightened mismatches (β = -0.68) and subsequent unemployment or underemployment (β = 0.74), explaining 71% of the variance in employment outcomes. This significant explanatory power underscores

that the unemployment crisis is not merely a function of macroeconomic stagnation but is deeply rooted in a systemic disconnect between educational curricula and market realities.

The Skills Gap as the Primary Driver of Unemployment The study establishes the skills gap as the principal mediator of graduate unemployment. The descriptive statistics and qualitative themes corroborate this, highlighting a dominance of theoretical pedagogy at the expense of practical, market-relevant competencies. Graduates consistently reported that their university education failed to equip them with the digital literacy, entrepreneurial acumen, and problem-solving skills demanded by the contemporary Afghan economy. This finding aligns with recent empirical studies emphasizing the urgent need to align technical and vocational curricula with labor market needs to foster economic growth (Yar & Azimi, 2025). In the absence of such alignment, university degrees are increasingly viewed by employers as weak signals of actual productivity, leading to credential inflation and the devaluation of academic achievements in the eyes of the labor market.

Furthermore, the qualitative theme regarding "Deficiency in Emerging Skills" reveals that the obsolescence of curricula is not just a matter of content but of relevance. As the global and regional economies digitalize, the Afghan higher education system's reliance on traditional, text-based instruction renders graduates uncompetitive. This supports the argument that educational institutions must transition from rote learning to competency-based models that prioritize adaptability and technical proficiency. Without this shift, the workforce remains ill-prepared for sectors that offer potential growth, such as information technology, agribusiness, and services.

The Moderating Role of Economic and Structural Fragility A critical contribution of this study is the identification of economic and structural fragility as a significant moderator of the skills gap. The quantitative analysis indicated that institutional fragility amplifies the negative impact of mismatches on unemployment ($\beta = 0.39$). The qualitative data contextualized this, revealing that even graduates possessing relevant skills struggle to find employment due to the contraction of the formal private sector and the dominance of the informal economy. The "Economic Fragility and Informal Dominance" theme highlighted that sanctions, reduced international aid, and governance challenges have shrunk the job market, forcing graduates into underemployment or migration.

This interplay between education and the broader economic environment suggests that in fragile states, human capital theory requires modification. In stable environments, investment in education typically yields returns via productivity gains. However, in Afghanistan, structural barriers distort this conversion process. As noted in literature regarding the empowerment of communities, the potential of the workforce cannot be unlocked without concurrent efforts to stabilize and stimulate the economic environment (Yar & Musadiq, 2024). The "brain drain" observed in the migration intentions of graduates is a direct symptom of this fragility; skilled individuals migrate not only due to a lack of skills but also because the economic infrastructure cannot utilize their existing capabilities.

Comparison with Similar Contexts and Theoretical Implications Comparative analysis with studies from proximate contexts reveals both convergences and distinct features. Similar to other developing nations, Afghanistan suffers from the "paradox of qualification," where graduates are overeducated for the available jobs yet underskilled for specific technical roles. However, the severity is magnified by the ongoing geopolitical instability and the specific collapse of linkages between academia and industry. Unlike more stable economies where mismatches might be corrected by market mobility or retraining, the Afghan context is characterized by a lack of mobility and a scarcity of retraining institutions.

Theoretically, these findings refine the task-based skills mismatch framework by incorporating political and economic fragility as exogenous shocks that accelerate skill obsolescence. The proposed "fragility-integrated model" advances human capital theory by positing that in conflict-affected settings, the return on educational investment is non-linear and heavily contingent on the stability of the surrounding socio-economic infrastructure. This challenges the optimistic assumption that simply increasing enrollment will drive development; instead, it emphasizes the quality and relevance of that enrollment.

Policy Implications and Strategic Reforms The evidence provided in this study compels targeted, evidence-driven interventions. Policy recommendations must address both the supply side (education) and the demand side (labor market).

1. Curriculum Modernization and TVET Integration: The most immediate imperative is the overhaul of university curricula to prioritize competency-based learning. This involves integrating digital literacy, soft skills, and entrepreneurship training across all disciplines. As suggested by recent research, aligning these curricula with labor market needs is not optional but a prerequisite for economic recovery (Yar & Azimi, 2025). Universities should forge partnerships with Technical and Vocational Education and Training (TVET) centers to ensure graduates possess tangible, employable skills.
2. Strengthening Industry-Academia Linkages: To bridge the experience gap identified in the "Employer Preferences" theme, higher education institutions must establish structured internship and apprenticeship programs. This requires a paradigm shift where industries are viewed as active stakeholders in education rather than just consumers of its output. Developing rural industries and small enterprises can play a pivotal role in absorbing graduates, provided they are supported by a workforce trained in specific industrial needs (Yar & Noori, 2024).
3. Evidence-Based Policymaking and Research: The "Calls for Competency-Based Reform" theme underscores the need for data-driven decision-making. Policymakers and university administrators must rely on rigorous research to identify emerging skill gaps and labor market trends. The necessity and importance of research in guiding these reforms cannot be overstated, as ad hoc changes without empirical backing are likely to fail (Yar, 2025).
4. Support for Entrepreneurship and the Private Sector: Given the limitations of the public sector in absorbing new graduates, fostering an ecosystem that supports entrepreneurship is vital. This includes access to microfinance, mentorship, and a regulatory environment that facilitates business registration and operations.

Limitations and Future Research While this study provides robust insights, several limitations must be acknowledged. First, the reliance on self-reported data may introduce social desirability bias, particularly in sensitive political contexts. Second, the geographical focus on urban centers and the inclusion of diaspora voices may limit the generalizability of findings to rural areas, where the labor market dynamics differ significantly. Third, access constraints restricted the sample size for certain subgroups.

Future research should focus on longitudinal tracking of graduate cohorts to assess how the skills gap evolves over time and to measure the actual impact of curriculum reforms. Additionally, comparative studies analyzing sector-specific mismatches (e.g., agriculture vs. ICT) could provide more granular insights for policy intervention. Finally, exploring the role of the informal economy as a potential training ground or destination for graduates warrants further investigation. Conclusion In conclusion, the graduate unemployment dilemma in Afghanistan is a multifaceted crisis driven primarily by a severe skills gap, compounded by economic fragility and structural disconnects between education and the labor market. The integration of quantitative and qualitative data in this study provides compelling evidence that theory-heavy curricula are failing to produce employable graduates. Bridging this gap requires a concerted effort to modernize education, align it with market needs through TVET and industry partnerships, and foster an economic environment capable of absorbing skilled talent. Only through such comprehensive, evidence-based reforms can Afghanistan harness its demographic potential and foster sustainable economic recovery.

## CONCLUSION

This mixed-methods investigation into graduate unemployment in Afghanistan has elucidated the critical role of the skills gap as the predominant driver of employment challenges in the post-2021 fragile economic context. By integrating quantitative structural equation modeling with qualitative thematic analysis, the study provides a robust empirical foundation for understanding how theoretical curricula and systemic resource constraints interact to hinder the employability of university graduates. The results unequivocally demonstrate that a lack of practical competencies in digital literacy, entrepreneurship, and problem-solving creates a severe mismatch between higher education outputs and labor market demands, accounting for 71% of the variance in unemployment outcomes. Furthermore, the moderating role of economic and structural fragility amplifies these effects, pushing graduates toward underemployment, informal sector participation, or migration.

Summary of Contributions The primary contribution of this study is the conceptualization and empirical validation of a fragility-integrated model. This model advances human capital theory by incorporating economic instability and structural disconnections as moderators that distort the conversion of educational investment into labor market productivity. Unlike stable economies where education typically guarantees improved employment prospects, this study highlights that in fragile contexts like Afghanistan, the returns on education are contingent upon the alignment of skills with the specific needs of a constrained private sector.

Additionally, the study extends task-based skills mismatch frameworks by demonstrating that political and economic shocks can accelerate skill obsolescence more rapidly than technological shifts alone.

Methodologically, the explanatory sequential mixed-methods design employed here offers a template for rigorous research in data-scarce and access-constrained environments. By triangulating survey data with in-depth narrative accounts from graduates and diaspora, the research overcame the limitations of single-method approaches and provided a nuanced understanding of the lived experiences of unemployment.

Policy and Practical Implications The findings of this study translate into urgent, evidence-based policy recommendations. To mitigate the crisis of graduate unemployment, a paradigm shift in higher education strategy is required.

First, the Ministry of Higher Education and universities must prioritize a comprehensive curriculum overhaul toward competency-based learning. The evidence suggests that simply increasing enrollment is insufficient; the content must align with market realities. Specifically, integrating technical and vocational training modules into mainstream degree programs can bridge the gap between theory and practice. Empirical studies confirm that aligning technical and vocational curricula with labor market needs is a fundamental prerequisite for fostering economic growth and reducing unemployment.

Second, strengthening the linkages between academia and the industrial sector is essential. Internships, apprenticeships, and career placement centers must be institutionalized to provide students with the practical experience that employers demand. The development of rural industries and local enterprises, which are vital for the national economy, must be supported by a workforce equipped with relevant, practical skills. Empowering communities through such targeted educational and economic interventions can serve as a catalyst for broader development and resilience.

Third, governance and policymaking must be grounded in rigorous, context-specific research. The path to recovery requires data-driven decision-making rather than ad-hoc policies. The necessity of research in identifying obstacles, forecasting skill needs, and evaluating interventions cannot be overstated. Establishing research centers and think tanks within universities can facilitate the continuous monitoring of labor market trends and the ongoing adaptation of educational programs.

Limitations and Future Research Despite its contributions, this study is subject to certain limitations. The reliance on self-reported data introduces the possibility of social desirability bias, particularly given the sensitive political and economic environment. Additionally, the sample, while stratified, was skewed towards urban centers and accessible populations (including the diaspora), which may limit the generalizability of the findings to rural or completely isolated populations. Finally, the cross-sectional nature of the study provides a snapshot in time but cannot capture the long-term dynamic evolution of the labor market.

Future research should adopt longitudinal designs to track the career trajectories of graduates over time, assessing how the skills gap evolves and how policy interventions impact employability in the long run. Comparative studies with

other fragile states in the MENA or South Asian regions could further isolate unique versus universal drivers of graduate unemployment. Furthermore, qualitative research focusing specifically on the informal sector could reveal unexplored pathways for skill utilization and economic survival.

Final Remarks Ultimately, bridging the skills gap is not merely an educational imperative but a prerequisite for Afghanistan's economic survival and recovery. The high levels of unemployment among graduates represent a significant waste of human capital that the country can ill afford. By modernizing curricula, fostering industry partnerships, and grounding reforms in empirical research, stakeholders can disrupt the cycle of mismatch and unemployment. Harnessing the potential of the youth demographic through relevant, high-quality education is the most viable pathway toward sustainable development and resilience in the face of ongoing fragility.

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