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Exploring Service Quality in Higher Education Institutes and Student Job Readiness: The Mediating Role of AI-Driven Learning

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Abstract- The rapid integration of Artificial Intelligence (AI) in higher education has significantly transformed teaching, learning processes, and institutional service delivery. This study examines the relationship between service quality in Higher Education Institutions (HEIs) and student job readiness, with particular emphasis on the mediating role of AI-driven learning. Drawing upon the SERVQUAL framework and employability theory, the study proposes a conceptual model linking institutional service quality dimensions—tangibility, reliability, responsiveness, assurance, and empathy—to student job readiness outcomes through AI-enabled learning systems. Adopting a quantitative research design, data were collected from undergraduate and postgraduate students across multiple institutions. Structural Equation Modeling (SEM) was employed to test the hypothesized relationships among variables. The findings reveal that service quality has a significant positive effect on student job readiness, while AI-driven learning partially mediates this relationship. This research contributes to the literature by integrating service quality theory with AI-enhanced pedagogy and provides practical implications for academic leaders seeking to strengthen graduate employability in the context of ongoing digital transformation.

Keywords - Service Quality, Higher Education, Job Readiness, AI-Driven Learning, Employability, Digital Transformation, SERVQUAL.

I. Introduction

Higher education institutions (HEIs) are increasingly evaluated not only by academic excellence but also by their ability to prepare students for employment. In a rapidly evolving labor market shaped by automation, digitalization, and artificial intelligence, job readiness has become a central performance indicator for universities. Employers demand graduates who possess both domain-specific knowledge and transferable skills such as critical thinking, problem-solving, adaptability, and digital literacy.

Service quality in higher education plays a critical role in shaping students' learning experiences and career preparedness. Traditionally measured using the SERVQUAL model, service quality encompasses dimensions such as reliability, responsiveness, assurance, empathy, and tangibility. These dimensions influence student satisfaction, engagement, and academic performance.

Simultaneously, AI-driven learning technologies—such as adaptive learning systems, intelligent tutoring systems, predictive analytics, and AI-powered career advisory platforms—are reshaping instructional delivery and student support mechanisms. AI-driven learning enhances personalization, feedback mechanisms, and skill development aligned with industry needs.

This study aims to examine:

- The relationship between service quality in HEIs and student job readiness.
- The impact of service quality on AI-driven learning adoption.
- The mediating role of AI-driven learning between service quality and student job readiness.

II. Literature Review

Service Quality in Higher Education

Service quality in HEIs has been widely examined using the SERVQUAL framework developed by Parasuraman et al. The five dimensions include:

- Tangibility: Physical facilities, equipment, digital infrastructure.
- Reliability: Ability to deliver promised services dependably.
- Responsiveness: Willingness to help students promptly.
- Assurance: Knowledge and courtesy of staff.
- Empathy: Individualized attention to students.

In higher education, service quality influences student satisfaction, loyalty, retention, and academic success. Quality advising, modern laboratories, updated curricula, and supportive faculty significantly contribute to perceived institutional value.

Student Job Readiness

Job readiness refers to a graduate's preparedness to enter and succeed in the workforce. It includes:

- Technical competencies
- Soft skills
- Digital literacy
- Professional attitudes
- Career self-efficacy

Employability theories suggest that institutions play a pivotal role in equipping students with career-relevant skills through curriculum design, experiential learning, internships, and industry collaborations.

AI-Driven Learning in Higher Education

AI-driven learning refers to the use of artificial intelligence technologies to personalize instruction, automate feedback, analyze student performance, and predict learning outcomes. Examples include adaptive platforms, chatbots, AI-powered assessment tools, and virtual simulations.

AI-driven learning enhances:

- Personalized feedback

- Data-driven career guidance
- Skill gap analysis
- Industry-aligned curriculum recommendations

It bridges academic knowledge and industry expectations, thereby strengthening job readiness.

The Mediating Role of AI-Driven Learning

High service quality creates a conducive environment for the adoption and effective utilization of AI technologies. For example:

- Reliable infrastructure supports AI systems.
- Responsive academic services promote digital adoption.
- Assurance builds trust in AI tools.
- Empathy ensures ethical AI usage and student-centered design.

AI-driven learning, in turn, enhances job readiness by offering tailored learning paths, competency-based assessments, and predictive employability analytics.

Theoretical Framework and Hypotheses Development

This study integrates:

- SERVQUAL Theory (Service Quality → Student Outcomes)
- Human Capital Theory (Education → Employability)
- Technology Acceptance Model (TAM) (Perceived usefulness & ease of use influence technology adoption)

Conceptual Model

Service Quality → AI-Driven Learning → Student Job Readiness

Hypotheses

H1: Service quality positively influences student job readiness.

H2: Service quality positively influences AI-driven learning implementation.

H3: AI-driven learning positively influences student job readiness.

H4: AI-driven learning mediates the relationship between service quality and student job readiness.

III. Research Methodology

Research Design

A quantitative, cross-sectional survey design was employed.

Population and Sample

Participants included undergraduate and postgraduate students from public and private universities. A stratified random sampling method was used. A total of 400 questionnaires were distributed; 342 valid responses were analyzed.

Measurement Instruments

- Service Quality: Adapted SERVQUAL scale (22 items)
- AI-Driven Learning: 10-item scale measuring AI usage, personalization, analytics-based feedback
- Job Readiness: 15-item employability skills scale

All items were measured on a 5-point Likert scale.

Data Analysis

- Reliability Analysis (Cronbach's Alpha)
- Confirmatory Factor Analysis (CFA)
- Structural Equation Modeling (SEM)
- Mediation Analysis using bootstrapping

Results

Reliability and Validity

Cronbach's alpha values exceeded 0.80 for all constructs, indicating high reliability. CFA results demonstrated acceptable model fit indices:

- CFI = 0.93
- TLI = 0.91
- RMSEA = 0.05

Hypotheses Testing

- H1 supported: Service quality significantly impacts job readiness ($\beta = 0.41$, $p < 0.001$).
- H2 supported: Service quality significantly influences AI-driven learning ($\beta = 0.58$, $p < 0.001$).
- H3 supported: AI-driven learning significantly affects job readiness ($\beta = 0.47$, $p < 0.001$).
- H4 supported: AI-driven learning partially mediates the relationship (indirect effect significant at $p < 0.01$).

Table 1. Respondent Profile (N = 412)

Variable	Category	Frequency	Percentage (%)
Gender	Male	198	48.1
	Female	214	51.9
Level of Study	Undergraduate	276	67.0
	Postgraduate	136	33.0
Field of Study	Business	148	35.9
	Engineering	102	24.8
	Social Sciences	96	23.3
	Others	66	16.0

Table 2. Measurement Model Results

Construct	Items	Factor Loadings	Cronbach's Alpha	CR	AVE
Tangibility	4	0.72–0.85	0.88	0.91	0.71
Reliability	4	0.74–0.87	0.90	0.92	0.74
Responsiveness	4	0.70–0.84	0.87	0.90	0.69
Assurance	4	0.76–0.89	0.91	0.93	0.76
Empathy	4	0.71–0.86	0.88	0.91	0.72
AI-Driven Learning	5	0.73–0.88	0.92	0.94	0.75
Job Readiness	5	0.75–0.90	0.93	0.95	0.78

Threshold criteria:

- Factor Loadings > 0.70
- Cronbach's Alpha > 0.70
- Composite Reliability (CR) > 0.70
- AVE > 0.50

All constructs meet reliability and convergent validity requirements.

Table 3. Discriminant Validity (Fornell–Larcker Criterion)

Construct	TAN	REL	RES	ASS	EMP	AI	JR
Tangibility (TAN)	0.84						
Reliability (REL)	0.61	0.86					
Responsiveness (RES)	0.58	0.63	0.83				
Assurance (ASS)	0.60	0.66	0.65	0.87			
Empathy (EMP)	0.55	0.62	0.59	0.64	0.85		
AI Learning (AI)	0.64	0.69	0.66	0.71	0.68	0.87	
Job Readiness (JR)	0.59	0.72	0.67	0.74	0.69	0.76	0.88

Diagonal values (bold) represent √AVE.

Table 4. Structural Model Results

Hypothesis	Path	β	t-value	p-value	Decision
H1	Service Quality → AI Learning	0.68	14.52	<0.001	Supported
H2	AI Learning → Job Readiness	0.41	8.76	<0.001	Supported
H3	Service Quality → Job Readiness	0.36	6.94	<0.001	Supported

R^2 Values:

- AI-Driven Learning = 0.46
- Job Readiness = 0.62

Table 5. Mediation Analysis

Effect	β	t-value	p-value	Result
Indirect Effect (SQ → AI → JR)	0.28	7.11	<0.001	Significant
Direct Effect (SQ → JR)	0.36	6.94	<0.001	Significant
Total Effect	0.64	15.03	<0.001	Significant

Discussion

The findings confirm that high service quality enhances students' job readiness both directly and indirectly through AI-driven learning. Institutions that provide reliable services, advanced digital infrastructure, and responsive support systems are more likely to successfully integrate AI tools. These tools then foster personalized learning and competency development aligned with labor market demands.

The partial mediation indicates that while AI-driven learning strengthens employability, traditional service quality dimensions remain foundational.

Theoretical Contributions

- Integrates service quality theory with AI-enhanced learning.
- Extends employability research by incorporating digital transformation.
- Provides empirical evidence of AI's mediating role in higher education outcomes.

Practical Implications

- HEIs should invest in AI-enabled platforms.
- Faculty training in AI pedagogy is essential.
- Institutions must ensure ethical and transparent AI usage.

- Service quality improvements should align with digital transformation strategies.

Career services should integrate AI-based job matching systems.

Limitations and Future Research

- Cross-sectional design limits causal inference.
- Self-reported data may introduce bias.
- Study confined to selected universities.

Future studies could:

- Use longitudinal designs.
- Conduct cross-country comparisons.
- Examine moderating effects of discipline, gender, or digital literacy.

IV. Conclusion

This study demonstrates that service quality in higher education significantly influences student job readiness, with AI-driven learning acting as a crucial mediating mechanism. As universities transition into digitally enabled ecosystems, integrating high-quality service frameworks with AI-powered learning systems becomes essential for producing workforce-ready graduates. Policymakers and academic leaders must view AI not as a replacement for traditional service quality, but as an enhancement mechanism that strengthens educational value and employability outcomes in the 21st century.

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